

**UNITED STATES DISTRICT COURT
DISTRICT OF MASSACHUSETTS**

JILLIAN BLENIS and LILI MITCHELL,
individually and on behalf of all others
similarly situated,

Plaintiffs,

v.

THINX INC.,

Defendant.

CASE NO.

Jury Trial Demanded

CLASS ACTION COMPLAINT

Plaintiffs Jillian Blenis and Lili Mitchell (“Plaintiffs”) bring this Class Action Complaint against Defendant Thinx Inc. (“Defendant”), individually and on behalf of all others similarly situated, and complain and allege as follows upon personal knowledge as to themselves and their own acts and experiences and, as to all other matters, upon information and belief, including investigation conducted by their attorneys.

NATURE OF THE CASE

1. This is a civil class action brought by Plaintiffs on behalf of consumers who purchased Defendant’s Thinx Cotton Brief, Cotton Bikini, Cotton Thong, Sport, Hiphugger, Hi-Waist, Boyshort, French Cut, Cheeky, and Thong (“Thinx Underwear”¹), which are used for personal hygiene purposes to collect and/or absorb menstrual fluid. Plaintiffs seek damages and equitable remedies for themselves, and for the putative Class.

2. Defendant designs, formulates, manufactures, markets, advertises, distributes, and sells the Thinx Underwear to consumers throughout the United States, including in the Commonwealth of Massachusetts. Its products are sold online on its website, as well as at various online and brick-and-mortar retailers.

3. Consumers, including Plaintiffs, willingly pay a premium for this personal hygiene product compared to cheaper disposable alternatives such as tampons. This is because consumers, including Plaintiffs, would like an easier, safer, and more sustainable approach to feminine hygiene care compared to traditional single-use feminine hygiene products.

4. Through its uniform, widespread, nationwide advertising campaign, Thinx has led consumers to believe that Thinx Underwear is a safe, healthy choice for women, and that it is free of harmful chemicals.

¹ The design, manufacture, and materials of the Cotton Brief, Cotton Brief, Cotton Bikini, Cotton Thong, Sport, Hiphugger, Hiphugger, Hi-Waist, Hi-Waist, Boyshort, French Cut, Cheeky, and Thong Underwear are substantially similar, if not identical.

5. In reality, Thinx Underwear contains harmful chemicals, including multiple polyfluoroalkyl substances (“PFAS”) and silver nanoparticles, which are a safety hazard to the female body.

6. Plaintiffs’ independent testing has confirmed the existence of these harmful chemicals in Thinx’s products using industry standard testing. The presence of these chemicals contradicts all of Thinx’s unvarying representations that the product is nontoxic, harmless, sustainable, organic, and otherwise safe for women and the environment.

7. Thinx has knowingly and willfully concealed and misrepresented the true nature of Thinx Underwear to consumers by engaging in, *inter alia*, the following actions, as set out more fully herein:

- a. Representing that Thinx underwear is a safe and healthy choice for menstrual protection;
- b. Representing that Thinx Underwear is free of harmful chemicals;
- c. Concealing the true nature of the chemicals in Thinx Underwear;
- d. Misrepresenting and/or concealing the results of third-party testing;
- e. Holding out Thinx Underwear as having qualities and/or certifications that it does not possess;
- f. Concealing the true nature of the “anti-odor” technology it uses in Thinx Underwear;
- g. Representing that Thinx Underwear is free of toxic metals and/or nanoparticles;
- h. Representing that its cotton Thinx Underwear is organic; and
- i. Representing that Thinx Underwear is “sustainable,” despite the presence of chemicals which are known to be harmful to the environment.

8. Thinx’s misbranding is intentional, and it renders the Thinx Underwear worthless or less valuable. If Thinx had disclosed to Plaintiffs and putative Class Members that Thinx Underwear

contained harmful chemicals, such as PFAS, Plaintiffs and putative Class Members would not have purchased Thinx Underwear or they would have paid less for the Thinx Underwear.

9. As a result of Thinx's misconduct and misrepresentations, Plaintiffs and putative Class Members have suffered injury in fact, including economic damages.

JURISDICTION AND VENUE

10. This Court has subject matter jurisdiction over this action pursuant to 28 U.S.C. §§ 1332 and 1367 because this is a class action in which the matter or controversy exceeds the sum of \$5,000,000, exclusive of interest and costs, and in which some Members of the proposed Class are citizens of a state different from Defendant.

11. This Court has personal jurisdiction over Defendant because it transacts business in the United States, including in this District, has substantial aggregate contacts with the United States, including in this District, engaged in conduct that has and had a direct, substantial, reasonably foreseeable, and intended effect of causing injury to persons throughout the United States, and purposely availed itself of the laws of the United States and the Commonwealth of Massachusetts, and further, because Plaintiffs purchased the Thinx Underwear in this District.

12. In accordance with 28 U.S.C. § 1391, venue is proper in this District because this District is where a substantial part of the conduct giving rise to Plaintiffs' claims occurred, where Defendant transacts business, and where Plaintiffs purchased the Thinx Underwear.

PARTIES

13. Plaintiff Jillian Blenis is a citizen of Massachusetts residing in Boston, Suffolk County.

14. Plaintiff Lili Mitchell is a citizen of Massachusetts residing in Peabody, Essex County.

15. Defendant Thinx, Inc. is incorporated in Delaware with its principal place of business in New York, New York.

FACTUAL ALLEGATIONS

16. Every day, around the world, some 800 million women and girls menstruate.²

² <https://www.worldbank.org/en/news/feature/2020/05/28/menstrual-hygiene-day-2020>

17. Throughout history, women have required products to hygienically manage their menstruation. Until very recently, commercially available feminine hygiene products in the United States were limited to disposable tampons and pads.

18. Health concerns about feminine hygiene products date back to the 1980s, when tampons were first linked to toxic shock syndrome, a potentially life-threatening condition.³

19. Currently, there is significant public health concern about the chemicals used in feminine hygiene products.⁴ Potential negative health effects stemming from the chemicals in tampons and pads, in addition to environmental concerns related to single-use plastics, have caused many women to seek out alternative menstrual hygiene products.

20. Industry research shows that increased demand for alternative menstrual hygiene products has largely been driven by young women in the 18-34-year-old category who cite environmental and health concerns about traditional disposable period products.⁵

21. According to a study conducted by the sustainability marketing firm Shelton Group, nearly 40% of women aged 18-34 have switched or are considering switching to reusable products to manage their periods.⁶ Sustainability generally refers to a concern for how the use of resources will impact the environmental, social, and economic health of future generations.⁷

Defendant's Business

22. Thinx, Inc., well aware of the demand for reusable menstrual hygiene products, has quickly become a leader in the alternative menstrual product market. The company was founded in 2011 with the purported mission of empowering women by providing “safe, comfortable, and sustainable options for people with periods and bladder leaks.”⁸

³ <https://my.clevelandclinic.org/health/diseases/15437-toxic-shock-syndrome>

⁴ <https://www.womensvoices.org/2018/06/05/new-tampon-testing-reveals-undisclosed-carcinogens-and-reproductive-toxins/>

⁵ https://www.nonwovens-industry.com/issues/2019-11/view_features/feminine-hygiene-manufacturers-shift-focus/

⁶ *Id.*

⁷ <https://www.sustain.ucla.edu/what-is-sustainability/>

⁸ <https://www.shethinx.com/pages/thinx-it-works>

23. Thinx Underwear are washable, reusable underwear designed to replace pads and tampons, or to be worn with tampons and menstrual cups for extra protection. In other words, they are “underwear that absorb your period.”⁹ Thinx Underwear uses “signature, innovative technology” that in addition to absorbing menstrual flow also wicks moisture, controls odors, and prevents leaks.¹⁰

24. Without exception, every advertisement, marketing campaign, instructional video, and public statement produced and distributed in relation to Thinx’s products encourages customers to use the Thinx Underwear the same way as traditional menstrual products and/or underwear.

25. Thinx, Inc. has been widely praised for its innovative approach to women’s healthcare. From its inception, Thinx has used a candid, personal approach to connect with its customers by openly discussing menstruation and its surrounding taboos in its advertising and marketing materials. In the words of former CEO Miki Agrawal, “It’s not [advertising] copy, it’s just conversation.”¹¹

26. Thinx products have been marketed and advertised to women across a variety of platforms, including online advertisements, Facebook and Instagram mobile video ads, television commercials, and print advertisements.

27. Based on a statement from current CEO Maria Molland, Thinx reached approximately 19 million people with its Facebook advertising in 2019, which Ms. Molland called “integral” to increased brand awareness.¹² Thinx saw a 30% increase in traffic to its website and a 68% increase in new website visitors as a result of the ads.¹³

28. Because Thinx is aware of growing concerns surrounding traditional single-use menstrual products, especially among younger women, it has always positioned its Thinx Underwear as a safe, effective, and sustainable alternative from an honest and trustworthy brand. A statement from their website is reproduced below:¹⁴

⁹ <https://www.shethinx.com/pages/thinx-faq>

¹⁰ <https://www.shethinx.com/pages/thinx-it-works>

¹¹ <https://www.thedrum.com/news/2016/03/07/its-not-copy-its-just-conversation-ceo-thinx-miki-agrawal-brands-clever-subway>

¹² <https://www.facebook.com/business/success/thinx>

¹³ *Id.*

¹⁴ <https://www.shethinx.com/pages/thinx-product-safety-standards>

At its core, Thinx Inc. was founded to provide safe, comfortable, and sustainable options for people with periods and bladder leaks. Customer safety is important to us, and so is your trust. That's why we'll always be honest and transparent about how our products are made. From rigorous absorbency testing, to objective third-party tests of our finished products, here are all the steps we take to uphold the highest standards of product safety.

29. On Defendant's website, in a section titled "FAQ", the following representations appear¹⁵:

Are Thinx free of harmful chemicals?

Absolutely! We take customer health and safety seriously, which is why all Thinx Inc. products are rigorously tested for harmful chemicals, and independently certified through STANDARD 100 by OEKO-TEX®, which includes REACH requirements [20.HUS.04850 | HOHENSTEIN HTTI]. We're proud to say that third party testing has never revealed any harmful chemical levels in Thinx Inc. products.

¹⁵ <https://www.shethinx.com/pages/thinx-faq> (last visited April 1, 2021). In or around May 2021, Defendant edited its website and removed many of the representations contained herein.

Are they really organic?

Yes, our Organic Cotton line is made with organic cotton!

How do Thinx control odor?

The wicking layer of our signature period-absorbing technology has an application of non-migratory silver, commonly used in performance wear and medical devices to control odor and the spread of bacteria. “Non-migratory” means it won’t come off your undies and that it only responds to bacteria *on the fabric*, not on your skin (so your vaginal microbiome stays fresh and balanced!).

30. On its website, on a page called “Product Safety,” Defendant makes the following additional claims¹⁶:

¹⁶ <https://www.shethinx.com/pages/thinx-product-safety-standards> (last accessed April 1, 2021)

All Thinx Inc. underwear are rigorously tested for harmful chemicals, and independently certified through STANDARD 100 by OEKO-TEX®, which includes REACH requirements [20.HUS.04850 | HOHENSTEIN HTTI]. This OEKO-TEX® certification means every component—from fabric to trim—is thoroughly tested and certified for ecological safety. Our finished products also undergo third-party testing by Bureau Veritas, an accredited, globally recognized facility. We're committed to third-party testing because it puts your safety first, ensuring that all results are honest and objective.

Do Thinx Inc. products contain toxic metals or nanoparticles?

No, Thinx Inc. products do not contain toxic metals or engineered nanoparticles. The anti-odor layer in our products is treated with Agion®, an EU regulated treatment that uses safe, non-migratory silver zeolite and silver copper zeolite. These compounds stay on the surface of the underwear and don't travel into your body.

31. Thinx's product label indicates that it is made of several different fabrics, but does not list additional ingredients. An example of a Thinx Hiphugger underwear label is reproduced below:



Plaintiffs' Testing

32. Plaintiffs sought independent third-party testing to determine whether Thinx Underwear contained any harmful chemicals.

33. The method used in Plaintiffs' independent testing is the industry standard for detecting and determining whether materials, such as Thinx underwear, comply with quality and safety standards.

34. Plaintiffs' independent testing from a third-party lab found short-chain PFAS chemicals within Thinx Underwear at material and above trace amounts. This non-conforming ingredient found within Thinx Underwear is material to Plaintiffs, customers, and potential class members.

PFAS Chemicals

35. Thinx first came under scrutiny in early 2020 when reporter Jessian Choy wrote that she had sent several pairs of Thinx Underwear to Dr. Graham Peaslee, a nuclear scientist at the University of Notre Dame, for analysis. After testing, Dr. Peaslee discovered high levels of fluorine

in the underwear he tested, in addition to finding the presence of copper and zinc. Based on his findings, Dr. Peaslee opined that due to the high levels of fluorine in the underwear, they likely contained polyfluoroalkyl substances (“PFAS”). Ms. Choy reported her findings in an article in Sierra magazine, published on January 7, 2020.¹⁷

36. PFAS are a category of man-made chemicals which, *inter alia*, may be used to enhance the performance of textiles and apparel.

37. PFAS chemical treatments are typically used on textiles in order to make them water repellant and/or stain resistant, and are frequently seen in outdoor apparel.

38. Based on information and belief, Thinx uses PFAS chemicals to enhance the performance of the Underwear, including its “moisture-wicking” and “leak-resistant” qualities.

39. While there are thousands of PFAS chemicals in existence, they are all categorized as either “long-chain” or “short-chain” based on the amount of carbon atoms they contain. Long-chain PFAS chemicals contain more than 8 carbon atoms, while any PFAS chemicals containing less than 8 carbon atoms are considered short-chain. All PFAS contain carbon-fluorine bonds—one of the strongest in nature—making them highly persistent in the environment and in human bodies.¹⁸

40. Humans can be exposed to PFAS through a variety of ways, including ingestion, inhalation, and skin absorption.¹⁹

41. Long-chain PFAS chemicals have been phased out of use in the United States and Europe due to their known toxicity to humans and the environment. Long-chain PFAS chemicals are bioaccumulative, meaning they build up in the body over time. These chemicals are sometimes called “forever chemicals” and have been associated with a variety of negative health effects for humans, including cancer. Long-chain PFAS chemicals would not be expected to appear in textiles.

42. Short-chain PFAS chemicals are currently used in the apparel industry as a replacement for the eliminated long-chain PFAS chemicals. There are no long term studies to indicate whether

¹⁷ See <https://www.sierraclub.org/sierra/ask-ms-green/my-menstrual-underwear-has-toxic-chemicals-it> (last accessed November 10, 2020)

¹⁸ <https://ntp.niehs.nih.gov/whatwestudy/topics/pfas/index.html>

¹⁹ *Id.*

short-chain PFAS chemicals are in fact safer for consumers; in fact, there are studies to suggest that they pose similar health risks to long-chain PFAS—including bioaccumulation.²⁰

43. Recently, the U.S. Department of Health and Human Services' National Toxicology Program found that short-chain PFAS have the same adverse effects as their long-chain counterparts.²¹ Their 2019 study found that both long and short-chain PFAS affected the same organ systems, with the greatest impact seen in the liver and thyroid hormone.²²

44. The Center for Disease Control's Agency for Toxic Substances and Disease Registry has recognized that exposure to high levels of PFAS may impact the immune system and reduce antibody responses to vaccines.²³ This is a significant concern given the current public health issues surrounding COVID-19.

45. Furthermore, PFAS is known to migrate during laundering, meaning that clothing items which are treated with PFAS release the chemicals into waterways when they are washed.²⁴

46. "The Madrid Statement," a scientific consensus regarding the persistence and potential for harm of PFAS substances issued by the Green Science Policy Institute and signed by more than 250 scientists from 38 countries, recommended the following actions in order to mitigate future harm: (1) discontinuing use of PFAS where not essential or safer alternatives exist; (2) labeling products containing PFAS; and (3) encouraging retailers and individual consumers to avoid products containing or manufactured using PFAS whenever possible.²⁵

47. There is ample evidence that non-PFAS based chemical treatments provide comparable performance benefits for apparel. Additionally, studies have found that *significant environmental and toxicological benefits* could be achieved by switching apparel to non-fluorinated finishes without a significant reduction in garment water-repellency performance.²⁶

²⁰ See <https://cen.acs.org/environment/persistent-pollutants/Short-chain-long-chain-PFAS/97/i33>

²¹ <https://ntp.niehs.nih.gov/whatwestudy/topics/pfas/index.html>

²² <https://ntp.niehs.nih.gov/whatwestudy/topics/pfas/index.html>

²³ <https://www.atsdr.cdc.gov/pfas/health-effects/index.html>

²⁴ <https://www2.mst.dk/Udgiv/publications/2015/04/978-87-93352-12-4.pdf>

²⁵ <https://greensciencepolicy.org/our-work/science-policy/madrid-statement/>

²⁶ <https://www.sciencedirect.com/science/article/abs/pii/S0045653517306598>

48. As a result of emerging health and environmental concerns regarding short-chain PFAS, many apparel companies, including North Face and Patagonia, have committed to phasing them out of their products completely.²⁷

Silver and Silver Copper Nanoparticles

49. Antimicrobial textile finishes first gained popularity in the early 2010s as a way to make clothing—particularly athletic clothing—odor-free. Silver and copper are the most common ingredients in antimicrobial clothing; they work by killing bacteria that causes odor.

50. Antimicrobial clothing has decreased in popularity in recent years due to concerns associated with silver shedding from fabric and causing harm to humans and the environment.

51. On its website, the following representation appears²⁸:

Do Thinx Inc. products contain toxic metals or nanoparticles?

No, Thinx Inc. products do not contain toxic metals or engineered nanoparticles. The anti-odor layer in our products is treated with Agion®, an EU regulated treatment that uses safe, non-migratory silver zeolite and silver copper zeolite. These compounds stay on the surface of the underwear and don't travel into your body.

52. Agion is an antimicrobial treatment which uses silver and copper nanoparticles to reduce odor in textiles.²⁹

53. Nanoparticles are small-scale substances which are undetectable to the human eye.³⁰ Whether they are engineered or naturally occurring, it is a nanoparticle's *size* that creates a hazard

²⁷ <https://www.gq.com/story/outdoor-gear-pfas-study>

²⁸ <https://www.shethinx.com/pages/thinx-product-safety-standards> (last accessed April 1, 2021).

²⁹ <https://www.sciessent.com/water-repellent-anti-odor-antimicrobial-products/agion-silver-antimicrobial/>

³⁰ <https://www.twi-global.com/technical-knowledge/faqs/what-are-nanoparticles>

since these small particles can readily enter the human body through inhalation, ingestion, and skin absorption.³¹

54. The mere fact that a nanoparticle is naturally occurring does not automatically render it “safer” than an engineered nanoparticle. Thus, Thinx’s representation that it does not include “engineered nanoparticles” is misleading to a reasonable consumer.

55. Furthermore, Thinx fails to disclose on the Underwear’s packaging and/or label that the Underwear contains silver nanoparticles.

56. On its website Thinx claims that its Agion treatment is non-migratory, which means “it won’t come off your undies and that it only responds to bacteria *on the fabric,* not your skin (so your vaginal microbiome stays fresh and balanced!).”³²

57. Silver nanoparticles present a particular risk to the female body, especially when they are present in period products. **(See Exhibit A- Nanosilver in Period Products)**

58. One study found that the vaginal administration of silver nanoparticles caused ultrastructural changes to the vaginal mucosa, urethra and rectum, in addition to leading to migration of silver into the bloodstream.³³

59. Silver can also have adverse effects on beneficial vaginal bacteria. A recent study by the Food and Drug Administration determined that silver is effective in killing lactobacillus.³⁴ Lactobacillus is one of the most important beneficial bacteria types in a healthy vagina. Disruption of a woman’s microbial balance can lead to overgrowth of harmful bacteria resulting in bacterial vaginosis, increased risk of sexually transmitted diseases, increased risk of pregnancy complications and other similar conditions.³⁵

60. The European Chemicals Agency (“ECHA”), the European Union’s chemical regulatory agency, has also expressed concern specifically about silver zeolites and silver copper

³¹ *Id.*

³² <https://www.shethinx.com/pages/thinx-faq> (last accessed April 1, 2021).

³³ <https://pubmed.ncbi.nlm.nih.gov/26816649/>

³⁴ <https://www.ncbi.nlm.nih.gov/pubmed/29481051>

³⁵ <https://www.ncbi.nlm.nih.gov/pubmed/28257809>

zeolites due to their potential impact on human health and the environment.³⁶ Silver copper zeolite and silver zeolite—including those specifically manufactured by the maker of Agion-- are currently under review and awaiting a determination of whether they will be phased out of use in the EU due to these health concerns.

61. The vagina and vulva absorb chemicals at a higher rate than other areas of the body.³⁷ The fabric treated with Agion is the innermost layer of the Thinx Underwear, which comes into contact with the vulvar tissue and vulvar/vaginal mucous membranes.

62. Silver nanoparticles are also known to migrate from treated clothing when it is laundered.³⁸ Because clothing, such as the Underwear, release small flecks of fabric (“lint”) when laundered, silver-containing lint is released to the environment. As a result of this migration, silver nanoparticles, which are harmful to marine life, are introduced into waterways.³⁹

63. In fact, in every published study of clothing containing nanosilver, the silver has been shown to migrate, thoroughly debunking the claim of “non-migratory” silver.⁴⁰ (**See Exhibit A.**) There are no published studies showing the success of a non-migratory silver additive to clothing. Thinx’s representation that its Agion treatment is non-migratory is untrue and misleading.

64. Thinx does not reveal to consumers that Agion is an antimicrobial, or that it contains silver and silver copper nanoparticles which are known to migrate and pose a safety hazard to the female body and the environment. Thus, Thinx’s representations that its Underwear does not contain harmful chemicals, toxic metals or engineered nanoparticles is inaccurate and misleading.

³⁶ <https://echa.europa.eu/documents/10162/bd098d67-3754-461c-bcde-107da470d726>

³⁷ See <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3948026/>

³⁸ <https://pubs.acs.org/doi/10.1021/nn502228w>

³⁹

https://ec.europa.eu/environment/integration/research/newsalert/pdf/risk_to_aquatic_ecosystems_from_silver_nanoparticles_394na1_en.pdf

⁴⁰ <https://www.womensvoices.org/nanosilver-in-period-care-products/#fn13>

Thinx Underwear Is Not Organic

65. Thinx represents on its website and in all of its marketing and advertising materials that its four styles of cotton underwear (hereinafter, collectively, the “Organic Cotton Underwear”) is organic.⁴¹ Plaintiffs and Class Members believed they were purchasing organic products.

66. Additionally, the Organic Cotton Underwear’s packaging and/or uniformly indicates that the product is organic. An image of the Organic Cotton Bikini’s tag is reproduced below:



67. “Organic” is generally understood as meaning an agricultural product that was produced without the use of chemical fertilizers, pesticides, or other artificial agents.⁴²

⁴¹ Thinx sells the Super Cotton Brief, Cotton Brief, Cotton Bikini, and Cotton Thong, all of which are represented as being made with organic cotton. See <https://www.shethinx.com/collections/thinx-organic-cotton> (last accessed May 12, 2021)

⁴² See <https://www.usda.gov/media/blog/2012/03/22/organic-101-what-usda-organic-label-means>

68. For any agricultural product to be sold as “organic” in the United States, no matter where in the world the crop is grown, the raw fiber must have been certified to the USDA’s National Organic Program’s (NOP) Crop Standard. This includes fibers such as cotton, flax and hemp.⁴³

69. Global Organic Textile Standards (“GOTS”) is the worldwide leading processing standard for organic fibers. GOTS provides standards for when textiles may be classified as organic, including independent certification of the entire textile supply chain.⁴⁴

70. In March 2020, GOTS released its latest standards which specifically prohibit the use of PFAS chemicals in any stage of processing. This prohibition extends to both long-chain and short-chain PFAS chemicals.⁴⁵

71. Plaintiffs’ testing found PFAS within the Thinx Underwear at above trace amounts using industry standard testing.

72. Thinx is not eligible for GOTS certification for its finished cotton Underwear because the Underwear contains PFAS.

73. Despite the fact the Underwear is ineligible for GOTS certification, Thinx released a GOTS “Certificate of Compliance” which was issued to a company called “Ocean Lanka.” (See **Exhibit B- GOTS Certificate**). Thinx’s name does not appear anywhere on the certificate, nor is there any information on the certificate referencing Thinx or its Underwear.

74. When confronted with the presence of harmful chemicals in its Underwear in January 2020, Thinx held out this certificate as its own in public statements and on its website even though it knew, or at least should have known, that the certification did not refer to the finished Thinx Underwear.⁴⁶

75. The inclusion of PFAS, at material and above trace amounts, renders the Thinx Underwear not organic. The Defendant never disclosed this fact to Plaintiffs and Class Members.

⁴³ <https://specialtyfabricsreview.com/2020/03/12/global-organic-textile-standard-gots-clarifies-organic-product-standards/>

⁴⁴ <https://www.global-standard.org/the-standard>

⁴⁵ See **Exhibit C** at page 7.

⁴⁶ <https://medium.com/@thinx/how-i-know-thinx-inc-products-are-safe-1e509dde60d5>

76. On its website, under the Frequently Asked Questions Section, Thinx makes the following representation: “Are they really organic? Yes, our Organic cotton line is made with organic cotton!”⁴⁷

77. However, despite Thinx’s representations, the gusset of the Organic Cotton Underwear is *not* made with organic cotton. Elsewhere on Thinx’s website, they disclose the fabric content of their Organic Cotton Underwear, which is reproduced below⁴⁸:

fabric

body 95% organic cotton, 5% elastane

gusset 95% cotton, 5% elastane; middle

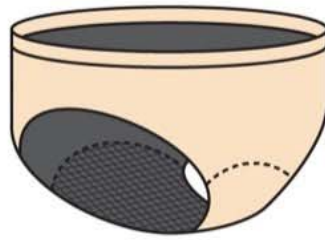
breathable PUL

78. The gusset is the innermost layer of the Underwear, and the area of the Underwear that comes into direct contact with the body—specifically the vulva, vagina, and/or rectum-- during wear. A diagram from Thinx’s website is reproduced below⁴⁹:

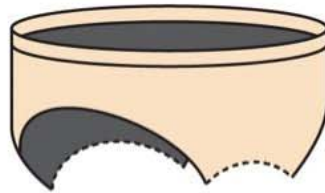
⁴⁷ See *supra* at page 8.

⁴⁸ <https://www.shethinx.com/collections/thinx-organic-cotton/products/thinx-cotton-brief?variant=50491926407> (Of Thinx’s four varieties of Organic Cotton Underwear, only the Super Cotton Brief utilizes a non-cotton gusset; the other three varieties contain an identical fabric makeup which utilizes non-organic cotton in the gusset.)

⁴⁹ <https://www.shethinx.com/pages/thinx-product-safety-standards>



Underwear



Gusset



Gusset layers

Body



1. Moisture-wicking layer



2. Absorbent layer



3. Moisture-impermeable layer

79. Based on Thinx’s representations, reasonable consumers, including Plaintiffs, would not expect the **cotton** gusset of the Organic Cotton Underwear to be made with non-organic cotton.

80. Consumers, including Plaintiffs, are willing to pay a premium for items labeled organic in order to avoid exposure to chemicals, especially in the most sensitive areas of the body.

81. Further, a reasonable consumer would not expect to find **any** harmful chemicals—let alone man-made “forever chemicals” like PFAS-- in an item labeled “organic.”

82. Plaintiffs and Class Members purchased the Thinx Underwear based upon their belief that the Thinx Underwear was organic. This belief was the direct result of Thinx’s specific representations on its website and other written marketing materials, including tags affixed to the products. In reality, the Thinx Underwear does not hold any independent organic certifications, nor do they conform to industry standards for organic clothing, nor do they use exclusively organic cotton in their Organic Cotton Underwear.

Defendant’s Knowledge of the Defect and Its Material Misrepresentations

83. In response to allegations that Thinx Underwear contains harmful chemicals, Defendant’s current CEO, Maria Molland, released the following statement on February 6, 2020:

At Thinx Inc., we take customer health and product safety very seriously. As a CEO, and mother to my three-year-old daughter, I’m personally committed to ensuring our products are designed and made to be safe for people and the planet. Our products undergo the ***strictest safety testing available***, and it was the company’s deep and abiding commitment to safe and sustainable products that made me want to join the team (emphasis added).

We take the recent allegations about PFAS in Thinx Inc. products very seriously. For that reason, we immediately engaged Dr. Chris Mackay, who is a toxicologist with Intertox, Inc., a leading toxicology company that has been testing and assessing the risks posed by chemical and biological agents for the last 25 years, to review Dr. Peaslee’s findings.

Based on this review, Dr. Mackay stated: “The testing methods Dr. Peaslee used are inappropriate and only indicate the presence of elemental fluoride — not PFAS. Fluoride is a common salt that’s in everyday products like toothpaste. All of us carry fluoride around in our bodies and secrete it through things like blood and sweat. The presence of fluoride doesn’t mean something contains PFAS; what it does mean is that some time in the history

of the sample, it came into contact with one or more of any number of products containing fluoride. On its own, it has no toxicological significance.”

Thinx Inc. uses the *most rigorous scientific methods available* in the world to ensure safe and sustainable products (emphasis added). Our products are tested by Bureau Veritas, S.A. an international certification agency with an accredited third-party lab that is recognized and respected around the world. This testing demonstrates that Thinx Inc. products meet the globally recognized standards of OEKO-TEX and comply with REACH regulations. Our testing with Bureau Veritas confirms that *no detectable long-chain PFAS chemicals* are present in Thinx Inc. products (emphasis added).

We appreciate and hear the concern our customers have expressed. In the weeks since Sierra Club’s reporting, we’ve completed further testing that goes above and beyond REACH regulations and OEKO-TEX standards. This additional third-party testing, available for download on our blog, reaffirmed that Thinx Inc. products meet and exceed global safety standards. Make no mistake, since our founding, we have made safety a pillar of our products and brand identity. We remain committed to these principles even in the face of unreliable science and misinformation.

We will always push for more disclosure from our manufacturers, and more rigorous industry standards for regulation and compliance — and we urge others in our category to do the same.⁵⁰

84. Ms. Molland’s statement was designed to further mislead and confuse customers regarding the presence of harmful chemicals in Defendant’s products in the following ways:

- a. By misrepresenting the scope and nature of Thinx’s safety testing;
- b. By misrepresenting the presence of PFAS in its products; and
- c. By providing consumers with third-party testing results which are incomplete or otherwise inaccurate;

85. Despite the fact that Defendant claims to take the allegations of PFAS in Thinx products “very seriously,” the third-party testing it released in response to these allegations tested only for long-chain PFAS chemicals, which are no longer present in the apparel industry at large. Defendant’s third-party testing failed to test for any short-chain PFAS chemicals.

⁵⁰ <https://medium.com/@thinx/how-i-know-thinx-inc-products-are-safe-1e509dde60d5>(last accessed November 10, 2020)

86. As the designer and manufacturer of Thinx Underwear, Thinx knew, or at minimum should have known, that its underwear is treated with short-chain PFAS chemicals in order to enhance its performance by making it water and/or stain resistant.

87. Thinx did not conduct any testing for short-chain PFAS chemicals (or did not disclose the results of any testing for short-chain PFAS chemicals) because it knew that any such testing would reveal the existence of these chemicals in the Thinx Underwear.

88. Ms. Molland's statement denying the existence of "long-chain PFAS chemicals" in its products was specifically designed to deceive consumers, as the average consumer would not be aware of the existence of short-chain vs. long-chain PFAS chemicals. Thinx would have no reason to explicitly disclaim its use of "long-chain PFAS chemicals" except for the purpose of misleading a reasonable consumer into believing *no* PFAS chemicals were present in its products.

89. Despite Ms. Molland's representation that Thinx uses the "strictest safety testing" available, the testing it released to the public only tested for an extremely limited range of chemicals.

90. The reports released by Thinx also contain discrepancies which suggest they are inauthentic, incomplete, and/or fraudulent, and intended to mislead consumers. On its Technical Report No. (7420)009-0036(S)(R2), a different report number appears on pages 3-7, which contain the substantive results of the testing. (**See Exhibit D, Thinx Testing**). A remark also appears on page 3 which states "The test report (7420)009-0036(S)(R) has been replaced with (7420)009-0036(S)(R2) to change fabric composition as per vendor request."

91. Furthermore, Defendant has only released test results for a fraction of its products and failed to release the results of other tests which are referenced in its publicly available reports, including Volatile Organic Compounds (VOC) testing, which would be of great interest and concern to consumers.

92. Despite Ms. Molland’s representation that Thinx uses the “most rigorous scientific methods available” to ensure the safety of its products, Bureau Veritas, the third-party lab Defendant employed to test its products does not specifically offer PFAS testing.⁵¹

93. The apparel industry has various certifications available with regard to consumer safety. Thinx claims to be independently certified by OEKO-TEX, but based on information and belief, Thinx does not currently hold an OEKO-TEX certification.

94. The apparel industry also has various certifications available with regard to organic fabrics. Thinx claims its underwear is made from organic cotton, but based on information and belief, Thinx does not hold *any* certification that its Underwear is organic. Furthermore, finished products containing PFAS and antimicrobials cannot be considered organic. Any reference to its products as “organic” was inaccurate and misleading to consumers.

95. Despite requests from journalists and consumers, Defendant has refused to provide any independent testing data from prior years.⁵²

96. As described *supra*, Plaintiffs’ independent testing from a third-party lab found short-chain PFAS chemicals within Thinx Underwear at material and above trace amounts. This non-conforming ingredient found within Thinx Underwear is material to Plaintiffs, customers, and potential class members.

97. On or about May 2021, Thinx edited the “FAQs” and “Product Safety” pages of its website to remove many of the representations alleged herein, including:

- a. “Are Thinx free of harmful chemicals? Absolutely!”
- b. “‘Non-migratory’ [silver] means it won’t come off your undies and that it only responds to bacteria *on the fabric*, not on your skin (so your vaginal microbiome stays fresh and balanced!).”
- c. “These compounds [silver nanoparticles] stay on the surface of the underwear and don’t travel into your body.”

⁵¹https://www.cps.bureauveritas.com/sites/g/files/zypfnx236/files/media/document/CPS_QA_Softline_v6_15OCT15.pdf(last accessed November 10, 2020)

⁵²*Id.*

98. Based on information and belief, Defendant removed these statements in response to a complaint filed in the Central District of California on November 11, 2020, alleging substantially similar claims of misrepresentation. That case is styled *Kanan et. al. v. Thinx, Inc.*, Case No. 2:20-cv-10341-JVS-JPR.

99. Through at least the filing date of this complaint, despite actual notice of the defect, Thinx is still selling the defective Underwear and concealing its true nature from consumers.

100. Thinx also continues to claim that “health and safety are our absolute top priorities, and we manufacture our products with that in mind.”⁵³

101. Had Plaintiffs and consumers known that the Thinx Underwear they purchased contained is treated with short-chain PFAS chemicals and harmful antimicrobials, and was not 100% organic, they would not have purchased the Thinx products or would have paid less for them.

Plaintiff Jillian Blenis’ Facts

102. In March 2020, Plaintiff Blenis purchased two pairs of the Thinx Underwear, including the Organic Cotton Bikini and the Hiphugger, from Thinx’s website.

103. Ms. Blenis first learned about Thinx products in 2016 through their online advertising, which appeared on various websites and social media platforms she visited. After becoming familiar with the product through its advertising, Ms. Blenis also visited the Thinx website, where she first purchased the Underwear in 2016.

104. At that time, Ms. Blenis purchased the Underwear simply because was seeking an easy, safe, reusable, and sustainable form of menstrual protection. She purchased additional pairs in 2017.

105. In 2019, Ms. Blenis was diagnosed with endometriosis, a gynecological disorder. Based on this disorder, she was particularly concerned about chemicals which could potentially disrupt her hormones and trigger inflammation. As a result, she began to carefully look at the chemicals contained within her menstrual products so as to avoid any unnecessary exposure. At that time, she was specifically looking for products which were organic and did not need to be used internally.

⁵³ <https://www.shethinx.com/pages/thinx-product-safety-standards> (last accessed May 12, 2021)

106. Based on her specific needs, in addition to growing concerns about environmental impact of menstrual products, Ms. Blenis decided to purchase additional pairs of Thinx Underwear.

107. Ms. Blenis reviewed Thinx's website prior to her purchase to determine whether the Underwear contained harmful chemicals, but never saw any disclosure regarding the presence of PFAS or any other chemicals.

108. At the time of her purchase, Ms. Blenis relied on Defendant's factual representations about the Thinx Underwear, including those representations made on Thinx's website, in its online advertising and marketing materials, and on the product's label and packaging. These representations all indicated that that the Thinx Underwear was safe for normal use and fit for the purpose of collecting and/or absorbing menstrual fluid and other vaginal discharge, that the Underwear was sustainable and safe for the environment, and that the Underwear was free from harmful chemicals. The Thinx representations also stated the cotton underwear was organic, and Ms. Blenis relied upon that representation.

109. Ms. Blenis reasonably believed, based on Thinx's representations, that the Underwear would serve as a safe, healthy, organic and chemical-free alternative to traditional menstrual products. Nothing in Thinx's representations indicated to Ms. Blenis that the Underwear contained various chemicals known to be harmful to the female body and the environment.

110. Ms. Blenis understood Thinx's "organic" representation to mean that the Organic Cotton Brief was not treated with any chemicals. Furthermore, Ms. Blenis reasonably believed that *all* of the cotton used in the Underwear—including the cotton gusset—was organic.

111. Ms. Blenis purchased the Underwear as a direct and intended result of Thinx's advertising, marketing, instructional videos, and other public statements, and she used them according to the product specifications.

112. In or around November of 2020, Ms. Blenis became aware of reports, including information published by Sierra Club, that Thinx underwear contained harmful chemicals.

113. When Ms. Blenis learned that the Thinx mislabeled its products, including failing to disclose harmful chemicals the products contained and misrepresenting that the products were organic, she stopped purchasing the Thinx Underwear.

114. Ms. Blenis did not receive the benefit of her bargain when she purchased the Thinx Underwear products that failed to conform to Thinx's material representations, including by containing ingredients that did not conform to the representations and to the warranties made by Defendant. Had she been aware of the misrepresentations, she would have either not purchased the Thinx Underwear or paid substantially less for it.

Plaintiff Lili Mitchell's Facts

115. In or around January 2019, Plaintiff Lili Mitchell first purchased Thinx Underwear from Thinx's website.

116. Ms. Mitchell purchased a variety of styles, including the Organic Cotton Bikini and the Organic Cotton Thong.

117. Ms. Mitchell purchased Thinx underwear because she was actively seeking an eco-friendly and chemical-free alternative to traditional feminine hygiene products.

118. Ms. Mitchell was first made aware of Thinx's products after seeing its advertisements on Facebook and Instagram. She later viewed Thinx's website, where she sought out information regarding the Underwear.

119. In making her purchase, Ms. Mitchell specifically relied on Thinx's representations on its website that the product was safe, free of harmful chemicals, and certified for ecological safety. Ms. Mitchell also relied on Thinx's representations that stated the product was organic. Ms. Mitchell reasonably believed that all of the cotton used in the Organic Cotton Bikini and Organic Cotton Thong Underwear was organic.

120. After wearing the Underwear regularly, Ms. Mitchell experienced multiple infections, including bacterial vaginosis, a type of vaginal inflammation caused by the overgrowth of bacteria

naturally found in the vagina. Bacterial vaginosis can occur when the vagina's levels of lactobacilli are too low, causing other bacteria to grow.⁵⁴

121. Silver nanoparticles, like that contained within the Underwear, is known to disrupt lactobacilli in the vagina.⁵⁵ (See Exhibit A.)

122. Nowhere on the Underwear's label or packaging did Thinx disclose the presence of silver nanoparticles in its Underwear.

123. In late 2020, Ms. Mitchell saw media reports, including those published by Sierra Magazine, that Thinx's products contained harmful chemicals. At that time, she stopped purchasing the Underwear.

124. Ms. Mitchell did not receive the benefit of her bargain when she purchased the Thinx Underwear products that failed to conform to Thinx's material representations, including by containing ingredients that did not conform to the representations and warranties made by Defendant, including warranties that the product was safe, sustainable, organic, and free of harmful chemicals.

125. Had she been aware of the misrepresentations regarding chemicals present in the Underwear, Ms. Mitchell would not have purchased the Thinx underwear or would have paid less for them.

Thinx's Misrepresentations and Omissions are Material To Reasonable Consumers

126. Defendant's Thinx Underwear is a niche product that is directed at a specific group of consumers: women who are hoping to purchase a safe, environmentally sustainable, and economical alternative to feminine hygiene products.

127. The representations made by Thinx were made to cater to this niche consumer group and drive consumer sales.

128. Plaintiffs and Class Members, purchased the Thinx product because of its specific representations: that it did not contain "harmful chemicals", was organic, and did not contain heavy

⁵⁴ <https://www.medicalnewstoday.com/articles/184622#causes>

⁵⁵ <https://www.ncbi.nlm.nih.gov/pubmed/29481051>

metals or nanoparticles. Each of these representations were important to a reasonable consumer, such as Plaintiffs and Class Members, when purchasing the Thinx Underwear.

129. As a direct and proximate result of Defendant's advertising, marketing, and public statements, consumers, including Plaintiffs, purchased Thinx Underwear for their personal use.

130. Contrary to representations made by Defendant in marketing materials, advertisements, social media and instructional videos on its website, Thinx Underwear contains chemicals which are harmful to the female body and the environment.

131. Contrary to representations made by Defendant in marketing materials, advertisements, social media, and its website, the Thinx Underwear are not organic.

132. Contrary to representations made by Defendant in marketing materials, advertisements, social media and instructional videos on its website, Thinx Underwear contains toxic metals and nanoparticles which are harmful to the female body and the environment.

133. Some users of Thinx Underwear have experienced physical symptoms including, but not limited to, urinary tract infections and yeast infections.

134. Defendant knew or should have known of these dangers, and has undertaken a deliberate and willful pattern of conduct (including taking active measures) aimed at deceiving consumers, including Plaintiffs, to believe that Thinx Underwear are free of chemicals shown to cause adverse health outcomes.

135. At all relevant times, Defendant knew the true nature of the chemicals contained in Thinx Underwear, but nevertheless marketed, advertised, and sold Thinx Underwear for use without adequately warning consumers that they contain chemicals that are dangerous and could be damaging to the user's health.

136. Even after being alerted to the presence of harmful chemicals in its products in early 2020, Defendant continued to willfully conceal this information from consumers and otherwise affirmatively deceive consumers by representing that its products had been independently certified as being free from harmful chemicals.

137. As a direct and proximate result of Defendant's concealment of the presence of chemicals, its deceptive representations, and its failure to sufficiently warn consumers about it or its harmful consequences prior to their purchase, Plaintiffs and other similarly situated consumers purchased and used Defendant's Thinx Underwear to their detriment.

138. Plaintiffs and Class Members were unaware of the harmful chemicals at the time they purchased Thinx Underwear. Had Plaintiffs and Class Members known the Thinx Underwear contained harmful chemicals or was not organic, they would not have purchased the Thinx Underwear or would have paid substantially less for it.

139. Plaintiffs and all putative Class Members purchased Thinx Underwear which contained the same chemicals at the point of sale to the public.

140. Plaintiffs and each of the Class Members have been damaged and suffered an injury in fact caused by Defendant's false, fraudulent, unfair, deceptive, and misleading practices, as set forth herein, and seek compensatory damages, injunctive relief, and such other and further relief as this Court deems just and proper.

141. Given the massive quantities of Thinx Underwear believed to have been sold all over the country, this class action is the proper vehicle for addressing Defendant's misconduct and for attaining needed relief for those affected.

CLASS ACTION ALLEGATIONS

133. Plaintiffs bring this action individually and as representative of all those similarly situated, pursuant to Fed. R. Civ. P. 23, on behalf of themselves and the members of the following class ("Class"):

During the maximum period permitted by law, all persons residing in the Commonwealth of Massachusetts who purchased Thinx Underwear.

142. Specifically excluded from these definitions are: (1) Defendant, any entity in which Defendant has a controlling interest, and its legal representatives, officers, directors, employees, assigns and successors; (2) the Judge to whom this case is assigned and any member of the Judge's

staff or immediate family; and (3) Class Counsel. Plaintiffs reserve the right to amend the Class definition as necessary.

143. Numerosity: The Members of the Class are so numerous that joinder of all members is impracticable. While the exact number of Class Members is presently unknown, it likely consists of at least thousands of people throughout the Commonwealth of Massachusetts. The number of Class Members can be determined by sales information and other records. Moreover, joinder of all potential Class Members is not practicable given their numbers and geographic diversity. The Class is readily identifiable from information and records in the possession of Defendant and its authorized retailers.

144. Typicality: The claims of the representative Plaintiffs are typical in that Plaintiffs, like all Class Members, purchased The Thinx Underwear that were designed, manufactured, marketed, advertised, distributed, and sold by Defendant. Plaintiffs, like all Class Members, have been damaged by Defendant's misconduct in that, *inter alia*, they have incurred or will continue to incur damage as a result of overpaying for a Product containing chemicals which make Thinx Underwear harmful to the female body and not fit for its intended use. Furthermore, the factual basis of Defendant's misconduct is common to all Class Members because Defendant has engaged in systematic fraudulent behavior that was deliberate, includes negligent misconduct, and results in the same injury to all Class Members.

145. Commonality: Common questions of law and fact exist as to all Members of the Class. These questions predominate over questions that may affect only individual Class Members because Defendant has acted on grounds generally applicable to the Class. Such common legal or factual questions include, *inter alia*:

- (a) Whether Defendant omitted or failed to disclose material information to Plaintiffs and Class Members;
- (b) Whether Defendant's alleged conduct violated public policy;
- (c) Whether the claims discussed above about Thinx Underwear are true, or are misleading or reasonably likely to deceive;
- (d) Whether Defendant omitted material facts and/or failed to warn reasonable consumers

regarding the known risks of using the Thinx Underwear;

- (e) Whether the representations discussed herein were material to a reasonable consumer;
- (f) Whether Defendant engaged in false or misleading advertising;
- (g) Whether Defendant engaged in unfair, unconscionable, or deceptive trade practices by selling and/or marketing the Thinx Underwear as not containing harmful chemicals and as being organic;
- (h) Whether Defendant breached the implied warranty of merchantability relating to Thinx Underwear;
- (i) Whether Defendant was negligent in its failure to adequately test;
- (j) Whether Defendant was negligent in its failure to warn;
- (k) Whether Defendant was negligent in its design of the Underwear;
- (l) Whether Plaintiffs and the Class are entitled to damages, including compensatory, exemplary, and statutory damages, and the amount of such damages;
- (m) Whether Plaintiffs and the other Class members have been injured and the proper measure of their losses as a result of those injuries; and
- (n) Whether Plaintiffs and the other Class members are entitled to injunctive, declaratory, or other equitable relief.

146. Adequate Representation: Plaintiffs will fairly and adequately protect the interests of Class Members. They have no interests antagonistic to those of Class Members. Plaintiffs retained attorneys experienced in the prosecution of class actions, including consumer product, misrepresentation, and mislabeling class actions, and Plaintiffs intend to prosecute this action vigorously.

147. Injunctive/Declaratory Relief: The elements of Rule 23(b)(2) are met. Defendant will continue to commit the unlawful practices alleged herein, and Plaintiffs and Class Members will remain at an unreasonable and serious safety risk as a result of the Thinx Underwear containing chemicals and being non-organic. Defendant has acted and refused to act on grounds that apply generally to the Class, such that final injunctive relief and corresponding declaratory relief is appropriate respecting the Class as a whole.

148. Predominance and Superiority: Plaintiffs and Class Members have all suffered and will continue to suffer harm and damages as a result of Defendant's unlawful and wrongful conduct. A class action is superior to other available methods for the fair and efficient adjudication of the controversy. Absent a class action, Class Members would likely find the cost of litigating their claims prohibitively high and would therefore have no effective remedy at law. Because of the relatively small size of Class Members' individual claims, it is likely that few Class Members could afford to seek legal redress for Defendant's misconduct. Absent a class action, Class Members will continue to incur damages, and Defendant's misconduct will continue without remedy. Class treatment of common questions of law and fact would also be a superior method to multiple individual actions or piecemeal litigation in that class treatment will conserve the resources of the courts and the litigants and will promote consistency and efficiency of adjudication.

149. Plaintiffs know of no difficulty to be encountered in the maintenance of this action that would preclude its maintenance as a class action.

150. Defendant has acted or refused to act on grounds generally applicable to the Class, thereby making appropriate final injunctive relief or corresponding declaratory relief with respect to the Class appropriate.

FIRST CLAIM FOR RELIEF

Breach of Express Warranty- Mass. Gen. Laws c. 106, §2-313 (Plaintiffs Individually and on Behalf of All Others Similarly Situated)

151. Plaintiffs repeat and reallege all previous paragraphs, as if fully included herein.

152. Plaintiffs bring this cause of action on behalf of themselves and the Class against Defendant.

153. Defendant manufactured, marketed, advertised, distributed, and sold the Thinx Underwear as part of their regular course of business.

154. Defendant made affirmations of fact and promises on the Products' packaging and/or through the marketing and advertising described herein. As described herein, Defendant expressly represented and warranted that:

- a. Thinx Underwear is free of harmful chemicals;
- b. Thinx Underwear is free of toxic metals and/or nanoparticles;
- c. Its cotton Thinx Underwear is organic;
- d. Its Thinx Underwear is “sustainable,” despite the presence of chemicals which are known to be harmful to the environment; and
- e. Thinx is a safe and healthy way for women to manage their menstruation.

155. Defendant made the foregoing express representations and warranties to all consumers, which became the basis of the bargain between Plaintiffs and the Class and Defendant.

156. Plaintiffs and the Class Members purchased the Thinx Underwear directly from Defendant or through authorized retailers such as Nordstrom and Amazon.

157. Defendant breached the foregoing express warranties by placing the Thinx Underwear into the stream of commerce and selling them to consumers, when the Thinx Underwear contain harmful chemicals, heavy metals and/or nanoparticles; are not organic; and otherwise fail to contain the properties they were represented to possess. The presence of harmful chemicals rendered the Thinx Underwear unfit for their intended use and purpose and substantially impaired the use and value of the Thinx Underwear.

158. As manufacturer, marketer, advertiser, distributor and seller of the Thinx Underwear, Defendant is the only party with knowledge and notice of the fact that the Thinx Underwear contains harmful chemicals.

159. Plaintiffs and Class Members were injured as a direct and proximate result of Defendant’s breaches of warranties because they would not have purchased the Thinx Underwear if the true facts had been known. Specifically, Plaintiffs and Class Members have suffered economic damages in connection with the purchase of the Thinx Underwear.

160. Defendant was put on constructive notice about its breach by at least January 2020 as the result of media reports described herein, and, upon information and belief, through its own product testing.

161. Despite having notice and knowledge of the defect, Defendant failed to provide any relief to Class Members, failed to provide a non-defective replacement, and otherwise failed to offer any appropriate compensation from the resulting damages.

162. As a direct and proximate result of Defendant's breach of its express warranties, Plaintiffs and Class Members did not receive the benefit of the bargain and suffered damages at the point of sale stemming from their overpayment for the defective Underwear, in addition to loss of the product and its intended benefits.

163. Plaintiffs and Class Members are therefore entitled to legal and equitable relief including damages, costs, attorneys' fees, rescission, and all such other relief deemed appropriate, for an amount to compensate them for not receiving the benefit of their bargain.

SECOND CLAIM FOR RELIEF
(In the Alternative)
Unjust Enrichment

164. Plaintiffs bring this count on behalf of themselves and the Class, and repeat and re-allege all previous paragraphs, as if fully included herein.

165. Plaintiffs and Class Members conferred a monetary benefit on Defendant, and Defendant had knowledge of this benefit. The retail price for Thinx Underwear listed online is \$24.00 or more.

166. By its wrongful acts and omissions described herein, including selling the Thinx Underwear with chemicals and that were not organic, Defendant was unjustly enriched at the expense of Plaintiffs and Class Members.

167. Plaintiffs and Class Members' detriment and Defendant's enrichment were related to and flowed from the wrongful conduct alleged herein.

168. Defendant has profited from its unlawful, unfair, misleading, and deceptive practices at the expense of Plaintiffs and Class Members under circumstances in which it would be inequitable for Defendant to retain the profits, benefits, and other compensation obtained from its wrongful conduct as described herein in connection with selling the Thinx Underwear.

169. Plaintiffs and Class Members have been damaged as a direct and proximate result of Defendant's unjust enrichment because they would not have purchased Thinx Underwear on the same terms or for the same price had they known that the Thinx Underwear contained harmful chemicals and were not organic.

170. Defendant either knew or should have known that payments rendered by Plaintiffs and Class Members were given and received with the expectation that The Thinx Underwear were free of chemicals, were organic, and capable of providing the benefits represented by Defendant in the labeling, marketing, and advertising of Thinx Underwear. It is inequitable for Defendant to retain the benefit of payments under these circumstances.

171. When required, Plaintiffs and Class Members are in privity with Defendant because Defendant's sale of Thinx Underwear was either direct or through authorized third-party retailers and resellers. Purchase through authorized retailer and resellers is sufficient to create such privity because such authorized third parties are Defendant's agents for the purpose of the sale of Thinx Underwear.

172. As a direct and proximate result of Defendant's wrongful conduct and unjust enrichment, Plaintiffs and Class Members are entitled to restitution of, disgorgement of, and/or imposition of a constructive trust upon all profits, benefits, and other compensation obtained by Defendant for its inequitable and unlawful conduct.

THIRD CLAIM FOR RELIEF
Negligence- Negligent Design
(Plaintiffs Individually and on Behalf of All Others Similarly Situated)

173. Plaintiffs bring this claim on behalf of themselves and Class Members and repeat and re-allege all previous paragraphs, as if fully included herein.

174. At all relevant times, Defendant was responsible for designing, constructing, testing, manufacturing, inspecting, distributing, labeling, marketing, advertising, and/or selling Thinx Underwear to Plaintiffs and the Class. At all relevant times, it was reasonably foreseeable by Defendant that the use of Thinx Underwear in its intended manner involved a substantial risk of injury and was unreasonably dangerous to Plaintiffs and the Class as the ultimate users of Thinx.

175. Defendant, as the designer, manufacturer, tester, distributor, marketer, advertiser, and/or seller of Thinx Underwear, had a duty to design the Thinx Underwear with reasonable care.

176. Defendant failed to exercise reasonable care to eliminate avoidable dangers to the user, including exposure to harmful chemicals such as PFAS and silver nanoparticles.

177. Reasonable alternative designs are available which would allow the Underwear to perform the same function in a safer fashion.

178. At all relevant times, the risk of injury and the resultant harm that Thinx Underwear posed to Plaintiffs and Class Members was foreseeable to Defendant, as the harmful condition of the Thinx Underwear existed at the time of its design, construction, manufacture, inspection, distribution, labeling, marketing, advertising, and/or sale, as described herein.

179. Defendant knew or through the exercise of reasonable care should have known of the harmful conditions and dangers associated with using Thinx Underwear as described herein, and knew that Plaintiffs and Class Members could not reasonably be aware of those risks. Defendants failed to exercise reasonable care in providing Plaintiffs and the Class with adequate warnings.

180. As a direct and proximate result of Defendant's failure to adequately warn consumers that the use of Thinx Underwear, including its intended use, could cause and has caused injuries and other damages, Plaintiffs and the Class have suffered damages, as described herein.

181. As Defendant's conduct was grossly negligent, reckless, willful, wanton, intentional, fraudulent, or the like, Plaintiffs and Class Members are entitled to an award of punitive damages against Defendant.

FOURTH CLAIM FOR RELIEF

Negligence – Failure to Warn

(Plaintiffs Individually and on Behalf of All Others Similarly Situated)

182. Plaintiffs bring this count on behalf of themselves and Class Members and repeat and re-allege all previous paragraphs, as if fully included herein.

183. At all relevant times, Defendant was responsible for designing, constructing, testing, manufacturing, inspecting, distributing, labeling, marketing, advertising, and/or selling Thinx

Underwear to Plaintiffs and the Class. At all relevant times, it was reasonably foreseeable by Defendant that the use of Thinx Underwear in its intended manner involved a substantial risk of injury and was unreasonably dangerous to Plaintiffs and the Class as the ultimate users of Thinx.

184. At all relevant times, Defendant knew or had reason to know of the risk of injury and the resultant harm that Thinx Underwear posed to Plaintiffs and Class Members, as the harmful condition of the Thinx Underwear existed at the time of its design, construction, manufacture, inspection, distribution, labeling, marketing, advertising, and/or sale, as described herein.

185. Defendant, as the designer, manufacturer, tester, distributor, marketer, advertiser, and/or seller of Thinx Underwear, had a duty to warn Plaintiffs and the Class of all dangers associated with the intended use of Thinx Underwear.

186. At minimum, the duty arose for Defendant to warn consumers that use of Thinx Underwear could result in injury and become unreasonably dangerous.

187. Defendant was negligent and breached its duty of care by negligently failing to provide adequate warnings to purchasers and users of Thinx Underwear, including Plaintiffs and the Class, regarding the risks and potential dangers of Thinx Underwear.

188. Defendant was negligent and breached its duty of care by concealing the risks of and failing to warn consumers that the Thinx Underwear contains materials and chemicals known to cause adverse health effects in humans and in the environment.

189. Defendant knew, or through the exercise of reasonable care, should have known of the harmful condition and dangers associated with using Thinx Underwear as described herein, and knew that Plaintiffs and Class Members could not reasonably be aware of those risks. Defendants failed to exercise reasonable care in providing Plaintiffs and the Class with adequate warnings.

190. As a direct and proximate result of Defendant's failure to adequately warn consumers that the use of Thinx Underwear, including its intended use, could cause and has caused injuries and other damages, Plaintiffs and the Class have suffered damages, as described herein.

191. As Defendant's conduct was grossly negligent, reckless, willful, wanton, intentional, fraudulent, or the like, Plaintiffs and Class Members are entitled to an award of punitive damages against Defendant.

PRAYER FOR RELIEF

WHEREFORE, Plaintiffs, individually and on behalf of all others similarly situated, respectfully requests that this Court:

- a. Certify the Class pursuant to Rule 23 of the Federal Rules of Civil Procedure;
- b. Name Plaintiffs as Class Representatives and Plaintiffs' attorneys as Class Counsel;
- c. Award damages, including compensatory, exemplary, and statutory damages, to Plaintiffs and the Class in an amount to be determined at trial;
- d. Grant restitution to Plaintiffs and the Class and require Defendant to disgorge its ill-gotten gains;
- e. Permanently enjoin Defendant from engaging in the wrongful and unlawful conduct alleged herein;
- f. Award Plaintiffs and the Class their expenses and costs of suit, including reasonable attorneys' fees to the extent provided by law;
- g. Award Plaintiffs and the Class pre-judgment and post-judgment interest at the highest legal rate to the extent provided by law; and
- h. Award such further relief as the Court deems appropriate.

JURY TRIAL DEMANDED

Plaintiffs demand a trial by jury on all claims so triable.

DATED: June 18, 2021.

By their attorneys,

/s/ Adam M. Stewart

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EXHIBIT A

Nanosilver in Period Products

In recent years, the use of nanosilver as an antibacterial agent has greatly increased. Nanosilver is very small (microscopic) particles of silver. It is now commonly incorporated into athletic clothing to make it “antibacterial” in an effort to reduce odor. It has also been incorporated into certain period care products including absorbent menstrual underwear, and some menstrual pads (generally those pads marketed as containing an “anion strip” or other “ion technology”). It should be noted that while nanosilver is the most commonly used antibacterial agent in these products, some manufacturers do not specifically disclose that they are using silver, instead merely claiming that their products are “antibacterial”. The purpose, according to manufacturers, is to provide antibacterial properties to these products with the aim of decreasing the growth of “harmful” and/or odor-producing bacteria. Unfortunately, there are several adverse human health and environmental risks and concerns associated with nanosilver use. There are also several specific reasons that nanosilver may be especially inappropriate to use around sensitive vaginal and vulvar tissue.

Potential effects of nanosilver-containing period products on vaginal and vulvar tissue:

The immediate proximity of underwear and menstrual pads to vulvar tissue and vulvar/vaginal mucous membranes implies the possibility of migration of the antimicrobial agent to these highly sensitive tissues. Unfortunately, the potential health impacts of the migration of nanosilver to vaginal tissue are largely understudied and not well understood. The vaginal irritation tests commonly conducted as part of the safety testing for period products may not reflect the potential harms or impacts of nanosilver exposure.

1. Silver can have adverse impacts on beneficial vaginal bacteria.

The impact of antimicrobials such as nanosilver and/or ionic silver on the vaginal microbiome has never been studied directly. A healthy vaginal microbiome contains a delicate balance of numerous and diverse beneficial bacteria. A disruption of the microbial balance, can lead to overgrowth of harmful bacteria resulting in bacterial vaginosis, increased risk of sexually transmitted diseases, increased risk of pregnancy complications and other similar conditions.ⁱ One particular kind of bacteria, lactobacillus, is one of the most important beneficial bacteria types in a healthy vagina for most women.ⁱⁱ There is some research available indicating that silver is an effective antimicrobial AGAINST lactobacilli, which is concerning. A recent study by the US Food and Drug Administration found that nanosilver was a very effective antibacterial that can kill two beneficial lactobacilli.ⁱⁱⁱ The two lactobacilli, (*Lactobacillus delbrueckii* subsp. *bulgaricus* and *Lactobacillus casei*) can both be found in the vaginal microbiome. Another study of nanosilver-containing dental resin found that nanosilver was very effective at eliminating lactobacilli in the mouth (associated with development of cavities).^{iv} A third study looked at the impact of nanosilver on beneficial probiotic lactobacillus found in fermented milk products.^v This study also found that nanosilver had significant impacts on reducing beneficial probiotic lactobacilli in these products. To date there have been no studies published on the impact of nanosilver directly on the vaginal microbiome, but certainly this is research that is needed if silver antibacterials are to be used safely in vaginally adjacent products.

2. Nanosilver can also be cytotoxic, particularly to vaginal epithelial cells.

We identified one study that has been conducted examining the safety of nanosilver in vaginal applications. This study administered nanosilver vaginally in rabbits and examined the impacts on the vaginal tissue cells and the uptake of nanosilver into the body.^{vi} The study found that the silver accumulated in vaginal tissues causing adverse ultrastructural changes to the vaginal mucosa, and promoted reactions toxic to vaginal cells. The researchers also found that vaginal administration of nanosilver led to migration of silver particles into the bloodstream, which could lead to systemic distribution around the body. Further research on the potential impacts of these outcomes is needed.

3. Migration of nanosilver from period products into vaginal tissue and mucosa has never been studied.

Despite the significant recent increase in use of nanosilver as an antibacterial additive to menstrual products, there is no research available measuring the potential migration or absorption of nanosilver into vaginal tissue from product use. In response to concerns for the potential hazards of nanosilver migration from menstrual products, the FDA, with the support of the Office of Women's Health, is now pursuing research in this area.^{vii} The study will, for the first time, examine the penetration and absorption of nanosilver into vaginal tissue and the toxic potential to the tissue and the vaginal microbiome from the use of menstrual products. Until this research is completed, manufacturers of nanosilver-embedded menstrual products are posing unknown risks to their customers.

4. Silver-treated athletic clothing has been implicated in several cases of thermal burns when worn during an MRI treatment.

MRI (magnetic resonance imaging) is a technique used for diagnosing and monitoring patients for a variety of diseases and conditions. As the technology involves high-powered magnets, patients are asked to remove anything metal from their bodies or clothing. There have been a few cases where patients have worn athletic clothing treated with silver, which resulted in a thermal burn to their skin as the metal in their clothing heated excessively during the procedure.^{viii, ix, x} It is likely the patients, despite being warned about not wearing metal, might not have realized that silver was embedded in their clothing. Silver-containing menstrual underwear may pose a risk of vulvar burns to patients getting MRIs.

What companies are saying about their antibacterial period products:

"It's not nanosilver, it's ionic silver"

The difference between these two terms is not entirely clear. The purpose of adding silver (in whatever form) to a fabric is to release silver ions which effectively kill bacteria. Nanosilver is a form of very small-sized silver which easily releases silver ions, is not very expensive, and thus is commonly used. Any other form of silver, in order to be an effective antibacterial agent, will also release silver ions, thus posing risks of exposure.

"We use non-migratory silver embedded in the fabric which cannot migrate to vaginal tissue"

The migration of nanosilver has been a concern of environmental organizations for over a decade. The concern is that nanosilver particles are released from clothing into our environment (particularly in our waterways) where

they are continuing to indiscriminately kill bacteria wherever they end up. This is of particular concern if they impact the beneficial bacteria that fish and other marine life rely on for survival. Several studies have been conducted to measure the release of nanosilver particles from athletic clothing – both from simulated wearing of the clothing, and from laundering the clothing.^{xi, xii, xiii} In every study thus far published, nanosilver has been documented to migrate from the clothing. We have not identified any published studies demonstrating the success of non-migratory silver additives. And certainly, the period products themselves are not indestructible. Use and laundering of these products leads to release of lint (small flecks of fabric, which will contain silver if it is embedded within.) This silver-containing lint, is released to the environment as well posing risks.

“The silver we use is non-bioavailable, and will not be taken up by human or animal tissue.”

Some silver additives claim to be non-bioavailable as any ions are released are quickly transformed to more stable silver sulfide compounds, thought to be non-toxic. Unfortunately, the stability of silver sulfide under certain environmental conditions is being questioned in recent research,^{xiv} and there is new concern for the toxic effects to plants able to uptake silver sulfide through their roots.^{xv} The absorption and uptake of this type of silver from period products has never been studied. Whether it is truly non-bioavailable to humans has not been demonstrated. In any case, it still may pose an environmental impact down the line.

“Antibacterial fabric in our products will eliminate odor and protect your health.”

The effectiveness of silver-containing clothing to eliminate odor is highly debated. Yes, the silver kills bacteria, but online reviews do not indicate that gym clothes no longer need to be washed frequently. There is even less evidence that period products actually emit noticeable odors, or that silver containing ones emit less. There is no research indicating that period products such as menstrual underwear or pads are likely to transmit harmful bacteria to your body. (There is the potential for toxic shock syndrome related bacteria to be transmitted by tampon use. Toxic shock syndrome has never been documented to be caused by pads or underwear.) Thus, eliminating bacteria on a pad or underwear is a solution to a problem that does not exist, and one that comes with unnecessary risks. Instead of eliminating bacteria, we should be promoting and protecting the beneficial bacteria that are crucial to a healthy vagina.

Conclusion: Nanosilver in period products poses risks to our health and the environment and is simply an unnecessary addition.

Nanosilver is a current trend – which sounds “natural” and is marketed as being harmless while having benefits. Unfortunately, the research on the safety of nanosilver, particularly on exposure to vulvar and vaginal tissue is scant. Researchers who have conducted preliminary research on nanosilver are concerned about the impacts. Users of these products should not be accepting the risks of this unproven technology. Fortunately, menstrual underwear and pads can be equally effective and useful without an antibacterial layer. (Remember: the vast majority of regular women’s underwear and menstrual pads have no antibacterial properties – and they work too.)

References are available online at:
<https://www.womensvoices.org/nanosilver-in-period-care-products>



EXHIBIT B



Control Union Certifications B.V.
Meeuwenlaan 4-6, 8011 BZ, Zwolle, Netherlands
+31 38 426 0100
www.controlunion.com

CERTIFICATE OF COMPLIANCE

(Scope Certificate)

Certificate No: CU810136GOTS-2019-00018500
Registration No: 810136

Control Union Certifications declares that

Ocean Lanka (Pvt) Limited
Block B, Biyagama Export Processing Zone, Walgama,
Malwana
Sri Lanka

has been inspected and assessed in accordance with the
Global Organic Textile (GOTS) 5.0

and that products of the categories as mentioned below (and further specified in the annex) comply with this standard:

Fabrics, Yarns

Processing steps / activities carried out under responsibility of the above-mentioned company (by the operations as detailed in the annex) for certified products

Dyeing, Printing, Exporting, Yarn dyeing, Knitting, Trading, Importing

This certificate is valid until:

2020-07-12

This certificate is valid from:

2019-07-13

Place and date of issue:



2019-09-27, Zwolle

Name of authorised person:

On behalf of the Managing Director
Udaya Kumari Herath | Certifier

Stamp of the issuing body



Standard's Logo



This certificate cannot be used as a transaction certificate. The issuing body can withdraw this certificate before it expires if the declared compliance is no longer guaranteed. Accredited by: Dutch Accreditation Council (RVA), Accreditation No: C 412



This electronically issued document is the valid original version.

Control Union Certifications B.V.

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www.controlunion.com

Annex to certificate no.: CU810136GOTS-2019-00018500

Ocean Lanka (Pvt) Limited
Global Organic Textile (GOTS)

In specific the certificate covers the following products:

Name of product	Label grade	Processing unit(s)
Dyed yarns - 100% Organic Cotton	Organic	Ocean Lanka (Pvt) Limited
Knitted dyed fabric - 90% Organic Cotton + 10% Elastane	Made With Organic	Ocean Lanka (Pvt) Limited
Knitted dyed fabrics - 100% Organic Cotton	Organic	Ocean Lanka (Pvt) Limited
Knitted dyed fabrics - 95% Organic Cotton + 5% Elastane	Organic	Ocean Lanka (Pvt) Limited
Knitted dyed fabrics - 96% Organic Cotton + 4% Elastane	Organic	Ocean Lanka (Pvt) Limited
Knitted dyed fabrics - 97% Organic Cotton + 3% Elastane	Organic	Ocean Lanka (Pvt) Limited
Knitted printed fabrics - 95% Organic Cotton + 5% Elastane	Organic	Ocean Lanka (Pvt) Limited
Knitted printed fabrics -100% Organic Cotton	Organic	Ocean Lanka (Pvt) Limited
Knitted yarn dyed fabrics - 96% Organic Cotton + 4% Elastane	Organic	Ocean Lanka (Pvt) Limited
Yarn dyed knitted fabrics - 100% Organic Cotton	Organic	Ocean Lanka (Pvt) Limited
Yarn dyed knitted fabrics - 95% Organic Cotton + 5% Elastane	Organic	Ocean Lanka (Pvt) Limited

Place and date of issue:

Stamp of the issuing body

Standard's logo



2019-09-27, Zwolle

Name of authorised person:

On behalf of the Managing Director
Udaya Kumari Herath | Certifier



Control Union Certifications B.V.
Meeuwenlaan 4-6, 8011 BZ, Zwolle, Netherlands
+31 38 426 0100
www.controlunion.com

Annex to certificate no.: CU810136GOTS-2019-00018500

Ocean Lanka (Pvt) Limited
Global Organic Textile (GOTS)

Under the scope of this certificate the following facilities / subcontractors have been inspected and assessed. The listed processing steps/activities comply with the corresponding criteria of the Global Organic Textile (GOTS) for the certified products:

Name of unit	Address	Processes
Ocean Lanka (Pvt) Limited	Block B, Biyagama Export Processing Zone, Walgama, Malwana Sri Lanka	Dyeing Printing Exporting Yarn dyeing Knitting Trading Importing

Place and date of issue:

Stamp of the issuing body

Standard's logo



2019-09-27, Zwolle

Name of authorised person:

On behalf of the Managing Director
Udaya Kumari Herath | Certifier

EXHIBIT C



GLOBAL ORGANIC TEXTILE STANDARD
ECOLOGY & SOCIAL RESPONSIBILITY

GLOBAL ORGANIC TEXTILE STANDARD (GOTS)

VERSION 6.0

01 MARCH 2020
(EFFECTIVE DATE: 01 MARCH 2021)

Global Standard gemeinnützige GmbH
Rotebühlstr. 102 · 70178 Stuttgart · Germany

www.global-standard.org



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1 PRINCIPLES

1.1 AIM OF THE STANDARD

The aim of this Standard is to define requirements to ensure organic status of textiles, from harvesting of the raw materials, through environmentally and socially responsible manufacturing up to labelling in order to provide a credible assurance to the end consumer.

1.2 SCOPE AND STRUCTURE

This Standard covers the processing, manufacturing, packaging, labelling, trading and distribution of all textiles made from at least 70% certified organic natural fibres. The final products may include, but are not limited to fibre products, yarns, fabrics, garments, fashion textile accessories (carried or worn), textile toys, home textiles, mattresses and bedding products as well as textile personal care products.

The Standard focuses on compulsory criteria only except where an exception from this rule is expressly stated. Some of the criteria are compliance requirements for the entire facility where GOTS products are processed (2.4.10. Environmental management, 2.4.11. Wastewater treatment, 3. Minimum social criteria, 4.1. Auditing of processing, manufacturing and trading stages and 5. Ethical Business Behaviour), whereas the others are criteria relevant for the specific products subject to certification (all other criteria of Section 2 and Section 4.2. of this Standard). GOTS criteria or the local legal requirements, whichever are higher, shall be followed.

As it is to date technically nearly impossible to produce any textiles in an industrial way without the use of chemical inputs, the approach is to define criteria for low impact and low residual natural and synthetic chemical inputs (such as dyestuffs, auxiliaries and finishes) accepted for textiles produced and labelled according to this Standard.

The Standard sets requirements on working and social conditions that are equivalent to those of leading social sustainability standards.

As the Standard is also applied and monitored for entities in countries with developed and effectively applied social and labour legislation and collective agreements between employers and trade unions that conform with the universal standards of the International Labour Organisation (ILO), exceptions to monitoring, verification and audit requirements may be made. Conditions for making exceptions are defined in the Implementation Manual of this Standard.

1.3 SCOPE CERTIFICATE

Processors, manufacturers, traders and retailers that have demonstrated their ability to comply with the relevant GOTS criteria in the corresponding certification procedure to an *Approved Certifier* receive a GOTS Scope Certificate issued in accordance with the 'Policy and Template for issuing Scope Certificates (SCs)'. Accordingly, they are considered *Certified Entities*. Scope Certificates list the products/product categories that the *Certified Entities* can offer in compliance with the Standard as well as the processing, manufacturing and trading activities that are qualified under the scope of certification. *Subcontractors* and their relevant processing and manufacturing steps become listed on the Scope Certificate of the *Certified Entity* assigning the certification.

1.4 LABEL GRADES AND LABELLING

The Standard provides for a subdivision into two label-grades. The only differentiation for subdivision is the minimum percentage of 'organic' / 'organic - *in conversion*' material in the certified product. Labelling of products as '*in conversion*' is only possible, if the Standard, on which the certification of the fibre production is based, permits such labelling for the fibre in question.

Only textile goods (finished or intermediate) produced in compliance with this Standard by a *Certified Entity* and certified by an *Approved Certifier* (= GOTS Goods) may be sold, labelled or represented as:



(a) **"organic"** or **"organic - in conversion"**

or

(b) **"made with (x %) organic materials"** or **"made with (x %) organic - in conversion materials"**

and the GOTS logo (or the immediate reference "Global Organic Textile Standard" or the short form "GOTS").

Labelling shall be completed by a reference to the *Approved Certifier* who has certified the *GOTS Goods* (e.g. certifier's name and/or logo) and the license number of the *Certified Entity* (as provided by the *Approved Certifier*).

In all cases the GOTS labelling can only be applied to the product/packaging by a *Certified Entity* and shall have been approved by the *Certified Entity's Approved Certifier* in advance of its application.

Labelling of *GOTS Goods* sold in retail is mandatory.

Application of GOTS labelling shall be in compliance with the 'Licensing and Labelling Guide'.

1.5 REFERENCE DOCUMENTS

Beside this Standard the Global Standard gGmbH has released the following official reference documents that provide for binding provisions and requirements for *Approved Certifiers* and users of the GOTS:

1.5.1 Manual for the Implementation of the Global Organic Textile Standard:

provides interpretations and clarifications for specific criteria of GOTS. Its purpose is to prevent any inconsistent, inappropriate or incorrect interpretation of the Standard. It further contains requirements and detailed specifications for the application of the GOTS and the implementation of the related quality assurance system for certifiers.

1.5.2 Licensing and Labelling Guide:

specifies the licensing conditions for companies participating in the GOTS certification system and defines the corresponding license fees. It further sets the requirements for the use of the GOTS registered trademarks.

1.5.3 Labelling Release for GOTS Goods:

provides a release form for labelling of GOTS Goods

1.5.4 Labelling Release for GOTS Additives:

provides a release form for labelling of GOTS Additives

1.5.5 Policy and Template for issuing Scope Certificates (SCs):

provides detailed instructions with regard to policies, layout, format and text for issuing Scope Certificates.

1.5.6 Policy and Template for issuing Transaction Certificates (TCs):

provides detailed instructions with regard to policies, layout, format and text for issuing Transaction Certificates

1.5.7 Policy and Template for issuing Letters of Approval:

provides detailed instructions with regard to policies, layout, format and text for issuing Letters of Approval for colourants and textile auxiliaries which are approved as inputs for application in the processing of GOTS certified textile products



1.5.8 Approval Procedure and Requirements for Certification Bodies:

specifies the approval and monitoring procedures and sets out the related requirements for Certification Bodies to implement the GOTS certification and quality assurance system

1.5.9 Policy for Change or Migration of Certifier:

specifies the steps to be undertaken by *Approved Certifier* and *Certified Entity* in case of change or migration of certifier.

2 CRITERIA

2.1 REQUIREMENTS FOR ORGANIC FIBRE PRODUCTION

Approved are natural fibres that are certified 'organic' or 'organic - in conversion' according to any standard approved in the IFOAM Family of Standards for the relevant scope of production (crop or animal production), such as Regulation (EC) 834/2007, USDA National Organic Program (NOP), APEDA's National Programme for Organic Production (NPOP), China Organic Standard GB/ T19630. The certification body shall have a valid and recognised accreditation for the standard it certifies against. Recognised accreditations are ISO 17065 accreditation, NOP accreditation and IFOAM accreditation.

Certifying of products as 'organic - in conversion' is only possible, if the standard on which the certification of the fibre production is based, permits such a certification for the fibre in question. Conversion status of fibres shall be stated as specified in Section 1.4. of this Standard.

2.2 REQUIREMENTS FOR FIBRE MATERIAL COMPOSITION

2.2.1 Products sold, labelled or represented as "organic" or "organic-in conversion"

No less than 95% ($\geq 95\%$) of the fibre content of the products - excluding *accessories* - shall be of certified organic origin or from '*in conversion*' period (identified and labelled as specified in Sections 1.4 and 2.1 of this Standard). Up to 5% ($\leq 5\%$) of the fibre content of the products may be made of non-organic fibres that are listed under 'additional fibre materials' in Section 2.4.9. The percentage figures refer to the weight of the fibre content of the products at normal conditions. No fibres shall be used which originate from production projects with regard to which there is evidence of a persistent pattern of gross violations of the ILO core labour norms (as far as these are relevant for agriculture) and/or of animal welfare principles (including Mulesing) or irrefutable evidence of a persistent pattern of land grabbing methods.

2.2.2 Products sold, labelled or represented as "made with x % organic materials" or "made with x % organic-in conversion materials"

No less than 70% ($\geq 70\%$) of the fibre content of the products - excluding *accessories* - shall be of certified organic origin or from '*in conversion*' period (identified and labelled as specified in Sections 1.4 and 2.1 of this Standard). Up to 30% ($\leq 30\%$) of the fibre content of the products may be made of non-organic fibres that are listed under 'additional fibre materials' in Section 2.4.9. The percentage figures refer to the weight of the fibre content of the products at normal conditions. No fibres shall be used which originate from production projects with regard to which there is evidence of a persistent pattern of gross violations of the ILO core labour norms (as far as these are relevant for agriculture) and/or of animal welfare principles (including Mulesing) or irrefutable evidence of a persistent pattern of land grabbing methods.

2.3 GENERAL REQUIREMENTS FOR CHEMICAL INPUTS IN ALL PROCESSING STAGES

2.3.1 Prohibited and restricted inputs

The following table lists chemical *inputs* that may (potentially) be used in conventional textile processing but that are explicitly banned or restricted for environmental and/or toxicological reasons in all



processing stages of *GOTS Goods*. It is not to be seen as a comprehensive and inclusive list of all chemical *inputs* that are prohibited or restricted under GOTS. Prohibition or restriction of substance groups or individual *substances* that are not explicitly listed in this Section may further result from Section 2.3.2 'Requirements related to hazards and toxicity' or from other criteria of this Standard.

Substance group	Criteria
Aromatic and/or halogenated solvents	Prohibited
Flame retardants	Prohibited are <ul style="list-style-type: none"> - Chlorinated flame retardants - Brominated flame retardants - Phosphate based flame retardants, listed in Manual - Flame retardants containing Antimony or Antimony Trioxide - Disodium octaborate
Chlorinated benzenes and toluenes	Prohibited
Chlorophenols (including their salts and esters)	Prohibited (such as mono, di, tri, tetra and penta- chlorophenols)
Complexing agents and surfactants	Prohibited are: <ul style="list-style-type: none"> • all APs and APEOs (i.e. NP, OP, NPEO, OPEO, APEOs terminated with functional groups, APEO-polymers) • EDTA, DTPA, NTA • LAS, α-MES
Endocrine disruptors	Prohibited
Formaldehyde and other short-chain aldehydes	Prohibited are <i>inputs</i> that contain or generate formaldehyde or other short-chain aldehydes (like glyoxal) during designated application
Glycol Derivatives	Prohibited are the glycol derivatives listed in the Manual
Genetically modified organisms (GMO)	Prohibited are all inputs that: <ul style="list-style-type: none"> • contain GMO • contain enzymes derived from GMO • are made from GMO raw materials (e.g. starch, surfactants or oils from GM plants) • GMO based traceability markers
Heavy metals	Prohibited, <i>inputs</i> shall be ' <i>heavy metal free</i> '. Impurities shall not exceed the limit values as defined in annex B. Exceptions valid for dyes and pigments are set in Sections 2.4.6. and 2.4.7.
Inputs (e.g. azo dyes and pigments) releasing carcinogenic arylamine compounds (MAK III, category 1,2,3,4)	Prohibited
Inputs containing functional nanoparticles (= particles with a size < 100 nm)	Prohibited
Inputs with halogen containing compounds	Prohibited are <i>inputs</i> that contain > 1% <i>permanent</i> AOX. Exceptions valid for pigments are set in Section 2.4.7.
Organotin compounds	Prohibited (such as DBT, DMT, DOT, DPhT, DPT, MBT, MMT, MOT, MPhT, TBT, TCyHT, TeBT, TeET, TMT, TOT, TPhT, TPT)
Plasticizers	Prohibited are: <p>PAH, phthalates and esters of phthalic acid, Bisphenol A and all other plasticizers with endocrine disrupting potential</p>



Substance group	Criteria
Per- and Polyfluorinated compounds (PFC)	Prohibited. (such as PFCA (incl. PFOA), PFSA (incl. PFOS) FTOH, PFNA, PFHpA, PFDA)
Quaternary ammonium compounds	Prohibited are: DTDMAC, DSDMAC and DHTDMAC
Chlorinated Paraffins Short-chain chlorinated paraffins (SCCPs, C ₁₀₋₁₃) Medium-chain chlorinated paraffins (MCCPs, C ₁₄₋₁₇)	Prohibited Prohibited
Cyclic Siloxanes (D4, D5, D6)	Prohibited are inputs that shall lead to ≥ 1000 ppm of cyclic siloxanes in processed GOTS Goods.
Substances and preparations that are prohibited for application in textiles with a recognised internationally or a nationally valid legal character	Prohibited
Substances and preparations having restrictions in usage for application in textiles with a recognised internationally or nationally legal character	The same restrictions apply, provided the <i>substances</i> and <i>preparations</i> are not already prohibited or have stricter restrictions criteria according to this Standard. <i>Substances</i> and <i>preparations</i> listed in regulation EC 552/2009 (amending regulation EC 1907/2006 (REACH), annex XVII), and the 'candidate list of substances of very high concern for authorisation' of the European Chemicals Agency (ECHA) are prohibited.
Microplastics	Prohibited are: Intentionally added synthetic <i>microplastics</i> .
In-can preservatives in chemical inputs	Prohibited are: In-can preservatives which do not meet the requirements of Sections 2.3.1 and 2.3.2 Except, allowed are: Biocidal active substance(s) that comply with European biocidal products regulation (BPR 528/2012) and listed on the Union list of BPR for product type PT06 (preservatives for products during storage): https://echa.europa.eu/en/information-on-chemicals/biocidal-active-substances

2.3.2 Requirements related to hazards and toxicity

Substance group	Criteria
Inputs which are classified with specific hazard statements (risk phrases) related to health hazards	Prohibited are: <ul style="list-style-type: none"> - <i>substances</i> which are classified with any of the following hazard statements, if applied as direct input - <i>preparations</i> which are classified with any of the following hazard statements - <i>preparations</i> which contain at least one substance which is classified with any of the following hazard statements in accordance with the codification system of the Global Harmonized System (GHS) as published by the United Nations, annex 3: H300 Fatal if swallowed



	<p>H310 Fatal in contact with skin</p> <p>H330 Fatal if inhaled</p> <p>H340 May cause genetic defects</p> <p>H341 Suspected of causing genetic defects</p> <p>H350 May cause cancer</p> <p>H351 Suspected of causing cancer</p> <p>H360 May damage fertility or the unborn child</p> <p>H361 Suspected of damaging fertility or the unborn child</p> <p>H370 Causes damage to organs</p> <p>H371 May cause damage to organs</p> <p>H372 Causes damage to organs through prolonged or repeated exposure</p> <p>For <i>inputs</i> assessed on basis of GHS, where the implementation system does not provide for the codified H-statements, the corresponding hazard classes and categories of GHS, annex 3 apply. For <i>inputs</i> assessed according to the 'risk phrase' classification (Directive 67/548EEC amended and repealed by Regulation EC 1272/2008) the equivalent risk phrases apply.</p>
Inputs which are classified with specific hazard statements / risk phrases related to environmental hazards	<p>Prohibited are:</p> <ul style="list-style-type: none"> - substances which are classified with any of the following hazard statements / risk phrases, if applied as direct input - preparations which are classified with any of the following hazard statements / risk phrases <ul style="list-style-type: none"> a) in accordance with the codification system of the Global Harmonized System (GHS) as published by the United Nations, annex 3: <p>H400: Very toxic to aquatic life</p> <p>H410: Very toxic to aquatic life with long lasting effects</p> <p>H411: Toxic to aquatic life with long lasting effects</p> <p>H420: Harms public health and the environment by destroying ozone in the upper atmosphere</p> <p>H433: Harmful to terrestrial vertebrates</p>
Inputs which are bio-accumulative and not rapidly degradable	<p>Prohibited are substances, if applied as direct input, and preparations classified with H413: 'May cause long-lasting effects to aquatic life' (respective R53) that are both, 'bio-accumulative'¹⁾ and not rapidly degradable^{2), 3)}</p>

1) All *substances* or *preparations* are considered as (potentially) bio-accumulative, if BCF (= bio-concentration factor) ≥ 500 or, if absent, $\log K_{ow}$ (= logarithm of the n-octanol-water partition coefficient) ≥ 4

2) Testing requirement: >70% OECD 301A [28d] or equivalent testing method according to footnote 4 of the table below, except test methods related to eliminability (OECD 302). In those cases where only BOD and COD data are available the input is considered 'rapidly degradable' when the ratio of BOD5/COD is $\geq 0,5$.

3) This criterion is not applicable to preparations whose very low solubility in water prevents their bioaccumulation (e.g. pigment preparations)



All *preparations* applied shall further comply with the following requirements:

Parameter	Criteria
Oral Toxicity ¹⁾	LD ₅₀ > 2000 mg/kg ²⁾
Aquatic Toxicity ³⁾	LC ₅₀ , EC ₅₀ , IC ₅₀ > 1 mg/l
Relation of biodegradability / eliminability ⁴⁾ to aquatic toxicity ³⁾	Only allowed, if: < 70% and > 100 mg/l > 70% and > 10 mg/l > 95% and > 1 mg/l

- 1) Performing new animal tests to determine unknown LD₅₀ values in the course of the GOTS assessment procedure for inputs (refer to Section 2.3.3) is prohibited. Instead, alternative methods (e.g. Acute Toxicity Estimates (ATE); conclusions on analogy from similar products; validated structure-activity relationships; calculation from available data of substances contained; expert judgment; in vitro tests) shall be used to determine unknown values.
- 2) *Substances* and *preparations*, such as alkalis and acids that fail to meet this requirement because of their pH value only, are exempt from this requirement.
- 3) Performing new fish and daphnia tests to determine unknown LC₅₀ / EC₅₀ values in the course of the GOTS assessment procedure for inputs is prohibited. Instead, alternative methods such as Acute Toxicity Estimates (ATE); validated structure-activity relationships; conclusion on analogy from similar products; calculation from available data of substances contained; fish egg test (embryo toxicity test (FET)); in vitro test; IC₅₀ algae; OECD 201 [72hr] shall be used to determine unknown values.
- 4) Accepted test methods: OECD 301A, OECD 301E, ISO 7827, OECD 302A, ISO 9887, OECD 302B, ISO 9888 or OECD 303A; alternatively, to meet the 70% level a *preparation* tested with one of the methods OECD 303A or ISO 11733 a percentage degradation of at least 80% shall be shown - or if tested with one of the methods OECD 301B, ISO 9439, OECD 301C, OECD 302C, OECD 301D, ISO 10707, OECD 301F, ISO 9408, ISO 10708 or ISO 14593, a percentage degradation of at least 60% shall be shown. To meet the 95% level, if tested with any of the mentioned methods, a percentage degradation of 95% shall be shown. Testing duration with each method is 28 days.

2.3.3 Assessment of chemical inputs

All chemical *inputs* intended to be used to process *GOTS Goods* are subject to approval by a GOTS *Approved Certifier* prior to their usage. *Preparations* shall have been evaluated and their trade names registered on approved lists prior to their usage by a GOTS *Approved Certifier* who is authorised by the Global Standard gGmbH for the specific accreditation scope: "Approval of textile auxiliary agents (chemical inputs) on positive lists" (Scope 4).

Approval shall be applied by the applicable chemical producer or supplier of the *preparations* who receive conformity documents (Letters of Approval) issued by the authorised certifiers and containing the trade names of applied *preparations* that have been found to be compliant with the criteria of this Standard.

For all chemical *inputs* (*substances* and *preparations*), a Material Safety Data Sheet (SDS), prepared according to an applicable recognised norm or directive shall be available. The *Approved Certifiers* are requested, where appropriate and felt necessary, to include further sources of information (such as additional toxicological and environmental data on specific components of the auxiliary agents, test reports, independent lab analysis and traceability checks of ingredients, no intentional use declarations, sources of data for hazard & toxicity, etc.) in the assessment.

Certified Entities shall have copies of valid Letters of Approval on hand listing all *preparations* they are using in processing and manufacturing GOTS Goods as verification proof that all colourants and textile auxiliaries used for GOTS Goods are actually approved.

2.3.4 Product Stewardship of chemical inputs

Chemical *formulators* shall implement appropriate and effective product stewardship practices. Adequate systems for product testing and quality assurance shall be in place.



2.3.5 Environment, Health and Safety for Chemical Suppliers

Chemical *formulators* shall undergo environmental management system and safety audit of their premises. On-site inspection shall be performed for the first year and every 3rd year of granted Letter of Approval or Standard Revision, whichever is earlier.

Following GOTS criteria shall be included in the audit of a chemical supplier:

- Section 2.4.10
- Section 2.4.11, (see Manual for COD requirements).
- Section 3.6

Above criteria is applicable to whole facility for the whole year.

At all stages through the chemical manufacturing and distribution, adequate measures for Separation and Identification shall be established. It shall be ensured that GOTS Approved *inputs* and other chemicals are not commingled and GOTS Approved *inputs* are not contaminated by contact with prohibited substances.

2.4 SPECIFIC REQUIREMENTS AND TEST PARAMETERS

2.4.1 Separation and Identification

All stages through the supply chain shall be established so as to ensure that organic and conventional fibres are not commingled and that organic fibres and *GOTS Goods* are not contaminated by contact with prohibited substances.

All organic raw materials and GOTS goods shall be clearly labelled and identified as such at all stages of the supply chain.

2.4.2 Spinning

Allowed are additives which meet the basic requirements as set in Sections 2.3.1. and 2.3.2. only. Any paraffin products used shall be fully refined with a limited value for residual oil of 0.5%. *Machine oils* that may come in contact with GOTS goods shall be *heavy metal-free*.

Synthetic fibres, which are to be dissolved at a later processing stage, are not allowed to be used.

2.4.3 Sizing and weaving / knitting

Allowed sizing agents include starch, starch derivatives, other natural *substances* and CMC (carboxymethylcellulose).

Synthetic sizes which meet the basic requirements as set in Sections 2.3.1. and 2.3.2. may be used for no more than 25% of the total sizing in combination with natural *substances* only, calculated for the chemical without water. In case such synthetic sizes are recycled/recovered in the wastewater from desizing process with a ratio >80% they may be used without limitation in the total sizing but shall still meet the requirements as set in Sections 2.3.1 and 2.3.2.

Machine oils that may come in contact with GOTS goods shall be *heavy metal-free*. Other *inputs* shall be derived from *natural materials* only.

2.4.4 Non-woven manufacture

Allowed non-woven manufacturing processing includes only mechanical compaction, webbing and entangling such as hydro entanglement.

2.4.5 Pre-treatment and other wet processing stages

Treatment / process	Criteria
Ammonia treatment	Prohibited



Treatment / process	Criteria
	- Exception: allowed for after-treatment of wool, if performed in closed system.
Bleaches	On basis of oxygen only (peroxides, ozone, etc.). <i>Approved Certifiers</i> may grant exceptions for non-cotton fibre products where oxygen bleaches are not sufficiently functional, provided they meet the basic requirements as set in Sections 2.3.1. and 2.3.2.
Boiling, kierung, washing	Allowed are auxiliaries that meet the basic requirements as set in Sections 2.3.1. and 2.3.2. only. Washing detergents shall not contain phosphates.
Chlorination of wools	Prohibited
Desizing	Allowed are GMO free enzymatic desizing and other auxiliaries that meet the basic requirements as set in Sections 2.3.1. and 2.3.2. only
Mechanical/thermal treatments	Allowed
Mercerization	Allowed with auxiliaries that meet the basic requirements as set in Sections 2.3.1. and 2.3.2. only. Alkali shall be recycled.
Optical brightening	Allowed are optical brightening agents (OBAs) that meet all criteria for the selection of dyes and auxiliaries as set in Section 2.4.6. Dyeing only.
Other, not explicitly listed pre-treatment methods	Allowed are mechanical / thermal pre-treatment methods and such with the use of <i>substances</i> on basis of <i>natural materials</i> .

2.4.6 Dyeing

Parameter	Criteria
Selection of dyes and auxiliaries	<p>Allowed are natural dyes, synthetic dyes, pigments and auxiliaries that meet the requirements as set in Sections 2.3.1 and 2.3.2. only.</p> <p>Prohibited are (disperse) dyes classified as sensitizing / allergenic.</p> <p>Prohibited are colourants classified as carcinogenic or suspected carcinogenic (H350 / H351).</p> <p>Prohibited are dyes containing heavy metals as an integral part of the dye molecule (e.g. heavy metal dyes, certain reactive dyes) under consideration of the following exceptions:</p> <ul style="list-style-type: none"> - General exception for Iron - Specific exception for copper: permitted up to 5% by weight in blue, green and turquoise dyestuffs. <p>The use of natural dyes and auxiliaries that are derived from a threatened species listed on the Red List of the IUCN is prohibited.</p>

2.4.7 Printing

Parameter	Criteria
Selection of dyes, pigments and auxiliaries	<p>Allowed are dyes, pigments and auxiliaries that meet the requirements as set in Sections 2.3.1 and 2.3.2 only.</p> <p>Prohibited are (disperse) dyes classified as sensitizing / allergenic.</p> <p>Prohibited are colourants classified as carcinogenic or suspected carcinogenic (H350 / H351).</p>



	<p>Flock printing is allowed with non-GMO natural and regenerated fibres if the fibres used meet the limit values for residues as listed in Section 2.4.16.</p> <p>Ammonia is allowed as a required buffer in pigment printing pastes.</p> <p>Prohibited are dyes and pigments containing heavy metals as an integral part of the dye molecule (e.g. heavy metal dyes, certain reactive dyes) under consideration of the following exceptions:</p> <ul style="list-style-type: none"> - General exception for Iron - Specific exception for copper: permitted up to 5% per weight in blue, green and turquoise dyestuffs and pigments only. <p>While in general <i>inputs</i> that contain > 1% <i>permanent</i> AOX are prohibited, exceptionally for yellow, green and violet pigments the limit is 5%.</p> <p>Prohibited are printing methods using aromatic solvents, phthalates or chlorinated plastics (e.g. PVC).</p> <p>The use of natural dyes and auxiliaries that are derived from a threatened species listed on the Red List of the IUCN is prohibited.</p>
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2.4.8 Finishing and Manufacturing

Parameter	Criteria
Selection of finishing methods and auxiliaries	<p>Allowed are mechanical, thermal and other physical finishing methods.</p> <p>Allowed are natural and synthetic <i>inputs</i> that meet the basic requirements as set in Sections 2.3.1 and 2.3.2 only.</p> <p>Prohibited in general is the use of synthetic <i>inputs</i> for anti-microbial finishing (including biocides), coating, filling and stiffening, lustring and matting as well as weighting.</p> <p>Prohibited are garment finishing methods that are considered to be harmful to the workers (such as sand blasting of denim).</p>
Machine oils	In Finishing and Manufacturing, <i>Machine oils</i> that may come in contact with GOTS goods shall be <i>heavy metal-free</i> .

2.4.9 Requirements for additional fibre materials and accessories

2.4.9.1 Requirements for additional fibre materials

Additional Fibre Materials	Criteria
Fibre materials accepted for the remaining non-organic balance of the product's material composition (max. 5% according to Section 2.2.1. and max. 30% according to Section 2.2.2.)	<p>The additional fibre materials may be mixed with the organic fibres to the fabric or used in certain details of the product.</p> <p>Blending organic and conventional fibres of the same type in the same product is not permitted.</p> <p>All additional materials shall meet the limit values for residues as listed in Section 2.4.16.</p> <p>Allowed are: Individually or in combination as a sum total up to 30% (≤30%)</p> <ul style="list-style-type: none"> a) non-GMO conventional natural vegetable fibres b) non-GMO conventional animal fibres. c) Lyocell or protein-based fibres derived from non-GMO sources and from certified organic raw materials or pre- or post-consumer waste or from raw materials certified according to a programme that verifies compliance with sustainable management principles d) recycled synthetic (polymer) fibres from <i>pre- or post-consumer waste</i>: only polyester, polyamide, polypropylene, elastomultiester



Additional Fibre Materials	Criteria
	<p>(elasterell-p) and polyurethane (elastane)</p> <p>e) PLA (polylactic acid) fibre produced from non-GMO bio-mass sources</p> <p>Individually or in combination as a sum total up to 10% (≤10%)</p> <p>a) regenerated fibres like lyocell, viscose or modal: raw materials used shall be non-GMO</p> <p>b) virgin synthetic (polymer) fibres: only polyamide, polypropylene, elastomultiester (elasterell-p) and polyurethane (elastane)</p> <p>c) stainless steel fibres and mineral fibres</p> <p>Prohibited are:</p> <p>a) conventional cotton</p> <p>b) conventional angora hair fibre</p> <p>c) virgin polyester</p> <p>d) acrylic</p> <p>e) asbestos, carbon and silver fibres</p> <p>f) any other not explicitly permitted fibres</p> <p>g) mulesed wool</p>

2.4.9.2 Requirements for Accessories

Accessories	Criteria
<p>Material in general (valid for appliqué, borders, buckles, buttons and press-studs, cords, edgings, elastic bands and yarns, embroidery yarns, fasteners and closing systems, adhesive tapes used for fusing, hatbands, laces, linings, inlays, interface, labels (heat-transfer/ adhesive/ care/ GOTS), interlinings, pockets, seam bindings, sewing threads, shoulder pads, padding for undergarments, trims, zippers and any other, not below explicitly listed accessories)</p>	<p>Allowed are:</p> <p>a) <i>natural materials</i> including biotic material (such as (organic or conventional) natural fibre, wood, leather, horn, bone, shell) and non-biotic material (such as minerals, metals, stone)</p> <p>b) regenerated and synthetic materials</p> <p>Prohibited is the use of:</p> <p>a) asbestos</p> <p>b) carbon fibres</p> <p>c) silver (filament, treated) fibres</p> <p>d) chromium (e.g. as component of a metal or in leather tanning, except that stainless steel is permitted)</p> <p>e) nickel (e.g. as component of a metal, except that stainless steel is permitted)</p> <p>f) material from threatened animals, plant and timber</p> <p>g) Chlorinated plastics (e.g. PVC)</p> <p>All materials used for <i>accessories</i> shall meet the applicable limit values for residues as listed in Section 2.4.16.</p>
<p>Fillings, stuffing</p>	<p>If textile fibres are used, the material requirements of Sections 2.2.1 respective 2.2.2 apply (since fillings with fibres are not considered <i>accessories</i>).</p> <p>If non-textile material is used only <i>natural materials</i> are permitted. <i>Natural materials</i> shall be from certified organic (in conversion) production in case such certification is applicable for the kind of material used (e.g. for plant-based materials such as grain spelt or animal based-materials such as feathers).</p> <p>Latex foam used as filling or stuffing shall be made from certified organic (in conversion) latex or from latex certified according to a program that verifies compliance with sustainable forestry management principles.</p>
<p>Supports and frames</p>	<p>The requirements as specified in the row 'material in general' apply.</p>



Accessories	Criteria
	Latex foam used in mattresses shall be made from certified organic (in conversion) latex or from latex certified according to a program that verifies compliance with sustainable forestry management principles. Polyurethane foams are not permitted in mattresses or other textile bedding products.
Non-Slip Floor Covering	Backing materials used shall be of certified natural origin and satisfy requirements of Section 2.3 of the GOTS Standard. Inorganic materials (such as dolomite) may be used in conjunction with this backing material, if they are of natural origin and satisfy Section 2.3 of the GOTS Standard.

2.4.10 Environmental management

In addition to GOTS criteria, all companies shall assure compliance with the applicable national and local legal environmental requirements applicable to their processing/manufacturing stages (including those referring to emissions to air, wastewater discharge as well as disposal of waste and sludge).

They shall have a written environmental policy and procedures in place to allow monitoring and improving relevant environmental performances in their facilities. The environmental policy shall be shared with all employees. Depending on the processing/manufacturing stages, the available data and procedures need to include:

- a) person responsible
- b) data on energy and water resources and their consumption per kg of textile output
- c) target goals and procedures to reduce energy and water consumption per kg of textile output
- d) monitoring of waste and discharges
- e) procedures to minimise waste and discharges
- f) procedures to follow in case of waste and pollution incidents
- g) documentation of staff training in the conservation of water and energy, proper handling and minimal use of chemicals and their correct disposal
- h) programme for improvement

Adequate inventory of GOTS approved chemical inputs should be maintained for processing *GOTS Goods*. Wet processing units shall keep full records of the use of chemicals, energy, water consumption and wastewater treatment, including the disposal of sludge. In particular, they shall continuously measure and monitor wastewater temperature, wastewater pH and sediment quantities. On-site waste burning or uncontrolled waste landfilling shall not be undertaken.

Certified Entities are required to collect information on sources of greenhouse gas emissions (GHG) within their own operations and identify means for reduction for each source.

2.4.11 Wastewater treatment

Wastewater from all wet processing units shall be treated in an internal or external functional wastewater treatment plant before discharged to environment. The applicable national and local legal requirements for wastewater treatment - including limit values with regard to pH, temperature, TOC, BOD, COD, colour removal, residues of (chemical) pollutants and discharge routes - shall be fulfilled. Minimum criteria is local / national law if GOTS requirements are lower.

Wastewater discharges to the environment shall not exceed 20 g COD/kg of processed textile (output). For scouring greasy wool an exceptional limit of 45 g COD/kg applies.

Treatment of wastewater from water retting of bast fibres shall achieve a reduction of COD (or TOC) of at least 95% for hemp fibres and 75% for all other bast fibres.



Where legal limits for pH and temperature are not defined for wastewater discharges to surface waters, discharge shall have a pH between 6 and 9 (unless the pH of the receiving water is outside this range) and a temperature of less than 35 °C (unless the temperature of the receiving water is above this value).

Wastewater analyses shall be performed and documented periodically at normal operating capacity.

2.4.12 Storage, packaging and transport

2.4.12.1 B2B trade of GOTS Goods

Organic textile products shall be stored and transported in such a manner as to prevent contamination by prohibited *substances* and commingling with conventional products or substitution of the contents.

Transport means and routes shall be documented.

In cases where pesticides/biocides are mandated for use due to national or regional rules or law, they may be used in Storerooms / Transport, but they shall comply with the applicable international or national organic production standard. Wooden pallets used in storage and transport activities are exempt from this requirement.

2.4.12.2 Retail (B2C) trade of GOTS Goods

Single use virgin plastic hangers are prohibited in retail packaging of *GOTS Goods*. Recycled plastic hangers may be used.

Final products with complete GOTS labelling can be stored / transported together with conventional products of similar type with positive assurance that there can be no substitution of products.

Synthetic packaging material shall not contain chlorinated plastics (e.g. PVC). The use of plastic packaging materials should be minimized.

Paper or cardboard used in packaging material for the retail trade of *GOTS Goods* (incl. labelling items such as hang tags or swing tags) shall be recycled from *pre-* or *post-consumer waste* or certified according to a program that verifies compliance with sustainable forestry management principles.

Textile fibre materials used for packaging, shall follow one of these three conditions:

- a) are certified organic (as explained in Section 2.2.1) and meet RSL criteria as in Section 2.4.15
- b) are certified organic - in- conversion (as explained in Section 2.2.2) and meet RSL criteria as in Section 2.4.15
- c) meet criteria for accepted additional fibres (Section 2.4.9.1) without limitation on percentages and meet criteria as in Section 2.4.16.

2.4.13 Record keeping & internal quality assurance

All operational procedures and practices shall be supported by effective documented control systems and records that enable to trace:

- a) the origin, nature and quantities of organic and additional (raw) materials, *accessories* as well as *inputs* which have been delivered to the unit
- b) the flow of goods within the unit (processing/manufacturing steps performed, recipes used and stock quantities)
- c) the composition of manufactured products
- d) the nature, quantities and consignees of *GOTS Goods* which have left the unit
- e) any other information that may be required for the purposes of proper inspection of the operation

Records relevant to the inspection shall be kept for at least five years.

Certified Entities purchasing organic fibres shall receive and maintain transaction certificates (=TCs, certificates of inspection), issued by a recognised certifier and certified in accordance with the criteria of Section 2.1 for the whole quantity purchased.

Certified Entities purchasing *GOTS Goods* shall receive and maintain GOTS transaction certificates, issued by an *Approved Certifier* for the whole quantity of *GOTS Goods* purchased, in accordance with the current Policy and Template for issuing Transaction Certificates (TCs). *Certified Entities* purchasing



organic fibres shall receive and maintain Scope Certificates and / or Transaction Certificates (where applicable) of the producer and trader(s) (if applicable) for the Organic Production Standard for the whole quantity purchased. All further conditions as prescribed in the latest version of the 'Policy and Template for issuing Transaction Certificates (TCs)' shall be followed.

The consignee of any organic fibres and *GOTS Goods* shall check the integrity of the packaging or container and verify the origin and nature of the certified products from the information contained in the product marking and corresponding documentation (e.g. invoice, bill of lading, transaction certificate) upon receipt of the certified products.

A product whose GOTS compliant status is in doubt may only be put into processing or packaging after elimination of that doubt.

Organic fibres and *GOTS Goods* shall clearly be identified as such on all corresponding invoices.

Certified Entities shall have invoices, delivery notes as well as copies of valid Letters of Approval at hand listing all *preparations* they are using in processing and manufacturing *GOTS Goods* as verification proof that all colourants and textile auxiliaries used for *GOTS Goods* are actually approved.

The *Certified Entity* shall have concluded a contract with each *subcontractor* stipulating the conditions of the relevant job work assigned and remains finally responsible for compliance with all criteria of this Standard.

Certified Entities shall collect, collate and share non-commercial information related to impact measurement if and as required by GOTS.

2.4.14 Technical quality parameters

Any final product labelled according to this Standard shall comply with the following technical quality parameters.

Parameter	Criteria	Test method
Rubbing fastness , dry for fibre blends	3-4 3	ISO 105 X12
Rubbing fastness , wet	2	ISO 105 X12
Perspiration fastness , alkaline and acidic Shade Change Staining on Multi-fibre	3-4 3-4	ISO 105 E04
Perspiration fastness for fibre blends Shade Change Staining on Multi-fibre	3 3	ISO 105 E04
Light fastness	3-4	ISO 105 B02
Dimensional change after washing at 40 °C (30 °C for animal fibre material and blends thereof). Knitted/hosiery: Woven: This criterion is only valid for the garment sector.	max. ±8% max. ±3%	ISO 6330
Saliva fastness (only for <i>textiles for babies</i>)	5	BVL B 82.92.3 DIN 53160-1
Washing fastness when washed at 40 °C Shade Change Staining on Multi-fibre	3-4 3-4	ISO 105 C06 A1M
Washing fastness of animal fibre material and blends thereof when washed at 30 °C Shade Change Staining on Multi-fibre	3-4 3-4	ISO 105 C06 A1S without use of steel balls



2.4.15 Limit values for residues in GOTS Goods

Even if produced in compliance with this Standard, textiles may carry traces of residues (e.g. due to unavoidable contamination). The following table lists the corresponding limit values for GOTS Goods:

Parameter	Criteria	Test method
Alkylphenol (ethoxylates) NP, OP, HpP, PeP, NPEO, OPEO sum parameter NP, OP, HpP, PeP Sum parameter	< 20 mg/kg < 10 mg/kg	For NP, OP: Extraction, derivatisation, GC/MS or HPLC/MS For NPEO, OPEO: Extraction in methanol, derivatisation, HPLC/MS : EN ISO 18254-1 or NPLC : EN ISO 18254-2 (test range for NPEO and OPEO: 3-15 moles)
AOX	< 5 mg/kg	Extraction with boiling water, adsorption on charcoal; AOX analyser based on ISO 9562 Alternatively: HJ/T 83-2001
Arylamines with carcinogenic properties (amine-releasing azo dyes MAK III, category 1,2,3)	< 20 mg/kg	EN 14362-1 and -3; (HPLC/GCMS)
Aniline, free (MAK III category 4)	<100 mg/kg	EN 14362-1; (HPLC/GCMS) without reductive cleavage
Disperse dyes classified as allergenic ¹	< 30 mg/kg	DIN 54231; (LC/MS)
Formaldehyde	< 16 mg/kg	Japanese Law 112; or based on ISO 14184-1
Glyoxal and other short-chain aldehydes (mono- and dialdehydes up to C6)	<20 mg/kg	Extraction (acc. to ISO 14184-1), ISO 17226-1 (HPLC)
pH value	4.5–9.0 (no skin contact) 4.5-7.5 (all others)	ISO 3071
Chlorophenols		LFGB 82-02-08; (GC/MS)
PCP	< 0.01 mg/kg	
TeCP	< 0.01 mg/kg	
TrCP	< 0.2 mg/kg	
DCP	< 0.5 mg/kg	
MCP	< 0.5 mg/kg	
O-Phenyl phenol (OPP)	< 1.0 mg/kg	
Pesticides , sum parameter		§ 64 LFGB L 00.00-34 (GC/MS); § 64 LFGB L 00.00-114 (LC/MS/MS)
All natural fibres (except shorn wool)	<0.1 mg/kg	
Shorn wool	<0.5 mg/kg	
Extractable Heavy metals	In eluate. Figures in mg/kg refer to textile	Elution DIN EN ISO 105-E04, ISO 17294-2 (ICP/MS), EN 16711-2
Antimony (Sb)	< 0.2 mg/kg	
Arsenic (As)	<0.2 mg/kg	
Cadmium (Cd)	< 0.1 mg/kg	
Chromium (Cr)	< 1.0 mg/kg	
Cobalt (Co)	< 1.0 mg/kg	
Copper (Cu)	< 25.0 mg/kg	
Lead (Pb)	< 0.2 mg/kg	
Nickel (Ni)	< 1.0 mg/kg	
Mercury (Hg)	< 0.02 mg/kg	
Selenium (Se)	< 0.2 mg/kg	

¹ See List in Manual, Section 2.4.6



Parameter	Criteria	Test method
Tin (Sn)	< 2.0 mg/kg	
Manganese (Mn)	< 90 mg/kg	
Zinc (Zn)	< 750 mg/kg	
Barium (Ba)	< 1000 mg/kg	
Chromium VI (Cr-VI)	< 0.5 mg/kg	Elution DIN EN ISO 105-E04, ISO 11083
Total Heavy metals (in digested sample)		
Cadmium (Cd)	< 45 mg/kg	EPA 3050 B, ICP/MS, EPA 3051 or EN 16711-1
Lead (Pb)	< 50 mg/kg	EPA 3050 B, ICP/MS, EPA 3051 or EN 16711-1
Organotin compounds		Extraction in solvent, ISO 17353 (GC/MS) or ISO/TS 16179
TBT	< 0.05 mg/kg	
TphT	< 0.05 mg/kg	
DBT	< 0.05 mg/kg	
DOT	< 0.05 mg/kg	
MBT	< 0.1 mg/kg	
DMT, DPT, MoT, MMT, MPhT, TeBT, TCyHT, TMT, TOT, TPT, DphT, TeET	< 0.1 mg/kg	
Per- and Polyfluorinated compounds (PFC) individually: PFOA, PFOS FTOH	absent < 1.0 µg/m ² < 0.01 mg/kg	Extraction in solvent, LC/MS Extraction in solvent, GC/MS
Phthalates (such as BBP, DBP, DCHP, DEHP, DEP, DHNUP, DHP, DHxP, DIBP, DIDP, DIHP, DIHxP, DINP, DMEP, DMP, DNOP, DNP, DPP, DPrP)		DIN EN 15777: 2009-12 (GC/MS) or ISO 14389
sum parameter	< 100 mg/kg	
Polycyclic Aromatic Hydrocarbons (PAH):		ISO 18287 (GC/MS) or AfPS GS 2014:01
sum parameter	< 5.0 mg/kg	
Chrysene	< 0.5 mg/kg	
Benzo[a]anthracene	< 0.5 mg/kg	
Benzo[b]fluoranthene	< 0.5 mg/kg	
Benzo[j]fluoranthene	< 0.5 mg/kg	
Benzo[k]fluoranthene	< 0.5 mg/kg	
Benzo[a]pyrene	< 0.5 mg/kg	
Benzo(e)pyrene	< 0.5 mg/kg	
Dibenzo[a,h]anthracene	< 0.5 mg/kg	
Naphthalene	< 1.0 mg/kg	
Acenaphthylene	< 1.0 mg/kg	
Acenaphthene	< 1.0 mg/kg	
Fluorene	< 1.0 mg/kg	
Phenanthrene	< 1.0 mg/kg	
Anthracene	< 1.0 mg/kg	
Fluoranthene	< 1.0 mg/kg	
Pyrene	< 1.0 mg/kg	
Indeno[1,2,3-cd]pyrene	< 1.0 mg/kg	
Benzo[g,h,i]perylene	< 1.0 mg/kg	
Cyclopenta (c,d)pyrene	< 1.0 mg/kg	
Dibenzo [a,e] pyrene	< 1.0 mg/kg	



Parameter	Criteria	Test method
Dibenzo [a,h] pyrene	< 1.0 mg/kg	
Dibenzo [a,i] pyrene	< 1.0 mg/kg	
Dibenzo [a,l] pyrene	< 1.0 mg/kg	
1-Methylpyrene	< 1.0 mg/kg	
Chlorinated Paraffins		
Short Chain Chlorinated Paraffins (C ₁₀₋₁₃) & Medium Chain Chlorinated Paraffins (C ₁₄₋₁₇)		
Sum parameter	<50 mg/kg	
Cyclic Siloxanes (D4, D5, D6)	<1000 mg/kg	Extraction in Solvent, GC/MS
Other Chemical Residues		
Azodicarboxamide/ Azodicarbonamide/ Diazene-1,2-dicarboxamide (ADCA)	<1000 mg/kg	
Chlorinated Benzenes & Toluenes	< 1.0 mg/kg	

2.4.16 Limit values for residues in additional fibre materials and accessories

Additional materials and accessories (in accordance with the criteria of Section 2.4.9) used for GOTS Goods need to comply with the following limit values for residues:

Criteria	Limit Values		Test Method
	For use in textiles for babies and textile personal care products	For use in all other GOTS Goods	
Arylamines with carcinogenic properties (amine-releasing azo dyes MAK III, category 1,2,3)	< 20 mg/kg	< 20 mg/kg	EN 14362-1 and -3; (HPLC/GCMS)
Aniline (MAK III category 4) (free)	<20 mg/kg	<50 mg/kg	EN 14362-1 (HPLC/GCMS), without reductive cleavage
Disperse dyes (classified as allergenic or carcinogenic)	< 30 mg/kg	< 30 mg/kg	DIN 54231; (LC/MS)
Formaldehyde	< 16 mg/kg	< 75 mg/kg (Skin Contact) <150 mg/kg (no skin contact)	Japanese Law 112; or based on ISO 14184-1
Glyoxal and other short-chain aldehydes (mono- and dialdehydes up to C6)	<20 mg/kg	<75 mg/kg (skin contact) <300 mg/kg (no skin contact)	Extraction (acc. to ISO 14184-1), ISO 17226-1 (HPLC)
pH value	4.0-7.5	4.0-7.5	ISO 3071
Chlorophenols			
PCP	<0.05 mg/kg	<0.5 mg/kg	LFGB 82-02-08; (GC/MS)
TeCP	<0.05 mg/kg	<0.5 mg/kg	
TrCP	<0.2 mg/kg	<2.0 mg/kg	
DCP	<0.5 mg/kg	<3.0 mg/kg	
MCP	<0.5 mg/kg	<3.0 mg/kg	
Pesticides, sum parameter			
All natural fibres (except shorn wool)	<0.5 mg/kg	<1 mg/kg	§ 64 LFGB L 00.00-34 (GC/MS); § 64 LFGB L 00.00-114 (LC/MS/MS)
Shorn wool	<1.0 mg/kg	<1 mg/kg	
Extractable Heavy metals			



Criteria	Limit Values		Test Method
	For use in textiles for babies and textile personal care products	For use in all other GOTS Goods	
Arsenic (As)	<0.2 mg/kg	<1.0 mg/kg	Elution DIN EN ISO 105-E04, ISO 17294-2 (ICP/MS)
Cadmium (Cd)	<0.1 mg/kg	<0.1 mg/kg	
Chromium (Cr)	<1.0 mg/kg	<2.0 mg/kg	
Cobalt (Co)	<1.0 mg/kg	<4.0 mg/kg	
Copper (Cu)	<25.0 mg/kg ¹	<50.0 mg/kg ¹	
Lead (Pb)	<0.2 mg/kg	<1.0 mg/kg (not for Glass)	
Nickel (Ni)	<1.0 mg/kg	<4.0 mg/kg	
Mercury (Hg)	<0.02 mg/kg	<0.02 mg/kg	Elution DIN EN ISO 105-E04, ISO 11083
Chromium VI (Cr-VI)	<0.5 mg/kg	<0.5 mg/kg	
Total Heavy metals (in digested sample)			
Cadmium (Cd)	<40 mg/kg	<40 mg/kg	EPA 3050 B, ICP/MS, EN16711-1
Lead (Pb)	<90 mg/kg	<90 mg/kg	
Nickel release	< 0.28 µg/cm²/week	< 0.28 µg/cm²/week	EN 12472, EN 1811
Organotin compounds			
TBT	<0.5 mg/kg	<1.0 mg/kg	Extraction in solvent, ISO 17353 (GC/MS) or ISO/TS 16179
TphT	<0.5 mg/kg	<1.0 mg/kg	
DBT	<1.0 mg/kg	<2.0 mg/kg	
DOT	<1.0 mg/kg	<2.0 mg/kg	
MBT	<1.0 mg/kg	<2.0 mg/kg	
DMT, DPT, MoT, MMT, MPhT, TeBT, TCyHT, TMT, TOT, TPT, DphT, TeET	<1.0 mg/kg	<2.0 mg/kg	ISO 14389
Phthalates (such as DINP, DMEP, DNOP, DEHP, DIDP, BBP, DBP, DIBP, DEP, DIHP, DHNUP, DCHP, DHxP, DIHxP, DPrP, DHP, DNP, DPP, DMP)			
sum parameter	<0.05%	<0.05%	
Polycyclic Aromatic Hydrocarbons (PAH):			
sum parameter	<5.0 mg/kg	<10.0 mg/kg	ISO 18287 (GC/MS) or AFPS GS 2014:01
1-Methylpyrene	<0.5 mg/kg	<1.0 mg/kg	
Acenaphthene	<0.5 mg/kg	<1.0 mg/kg	
Acenaphthylene	<0.5 mg/kg	<1.0 mg/kg	
Anthracene	<0.5 mg/kg	<1.0 mg/kg	
Benzo(e)pyrene	<0.5 mg/kg	<1.0 mg/kg	
Benzo(j)fluoranthene	<0.5 mg/kg	<1.0 mg/kg	
Benzo[a]anthracene	<0.5 mg/kg	<1.0 mg/kg	
Benzo[a]pyrene	<0.5 mg/kg	<1.0 mg/kg	
Benzo[b]fluoranthene	<0.5 mg/kg	<1.0 mg/kg	
Benzo[g,h,i]perylene	<0.5 mg/kg	<1.0 mg/kg	
Benzo[k]fluoranthene	<0.5 mg/kg	<1.0 mg/kg	
Chrysene	<0.5 mg/kg	<1.0 mg/kg	
Cyclopenta (c,d)pyrene	<0.5 mg/kg	<1.0 mg/kg	
Dibenzo [a,e] pyrene	<0.5 mg/kg	<1.0 mg/kg	
Dibenzo [a,h] pyrene	<0.5 mg/kg	<1.0 mg/kg	



Criteria	Limit Values		Test Method
	For use in textiles for babies and textile personal care products	For use in all other GOTS Goods	
Dibenzo [a,i] pyrene	<0.5 mg/kg	<1.0 mg/kg	
Dibenzo [a,l] pyrene	<0.5 mg/kg	<1.0 mg/kg	
Dibenzo[a,h]anthracene	<0.5 mg/kg	<1.0 mg/kg	
Fluoranthene	<0.5 mg/kg	<1.0 mg/kg	
Fluorene	<0.5 mg/kg	<1.0 mg/kg	
Indeno[1,2,3-cd]pyrene	<0.5 mg/kg	<1.0 mg/kg	
Naphthalene	<0.5 mg/kg	<1.0 mg/kg	
Phenanthrene	<0.5 mg/kg	<1.0 mg/kg	
Pyrene	<0.5 mg/kg	<1.0 mg/kg	
Chlorinated Paraffins			
Short Chain Chlorinated Paraffins (C ₁₀₋₁₃) & Medium Chain Chlorinated Paraffins (C ₁₄₋₁₇)			
Sum parameter	<50 mg/kg	<50 mg/kg	
Cyclic Siloxanes (D4, D5, D6)	<1000 mg/kg	<1000 mg/kg	
Other Chemical Residues			
Azodicarboxamide/ Azodicarbonamide/ Diazene-1,2-dicarboxamide (ADCA)	<1000 mg/kg	<1000 mg/kg	
Solvent Residues			
NMP, DMAc, DMF	0.05 % by weight	0.05 % by weight	
Formamide	0.02% by weight	0.02% by weight	
Chlorinated Benzenes & Toluenes	1.0 mg/kg	1.0 mg/kg	
Nonylphenol Ethoxylates	100 mg/kg	100 mg/kg	

1) Criterion not applicable to inorganic / non-biological materials (such as metals)

Further parameters relevant for specific materials used in accessories	Criteria	Test method
Polyester fibres: Antimony (Sb)	< 30 mg/kg	Elution DIN EN ISO 105-E04, ISO 17294-2 (ICP/MS)
Natural latex foam: Butadiene Chlorophenols (incl. salts and esters) Carbon disulphide Nitrosamines	< 1.0 mg/kg < 1.0 mg/kg < 0.02 mg/m ³ < 0.001 mg/m ³	GC- FID LFGB 82-02-08 (GC/MS) Chamber test, DIN ISO 16000-6 Chamber test; ZH 1/120-23 or BGI 505-23 for air sampling and analysis

3 SOCIAL CRITERIA

3.1 SCOPE

The following social criteria apply to all textile processing, manufacturing and trading stages which are employing workers. The same principles and requirements apply also to the farm level, taking account



of its specific nature and recognizing the limited direct monitoring and assurance possibilities with this Standard.

For adequate implementation and assessment of the following specific criteria adherence to the corresponding International Labour Conventions of the International Labour Organisation (ILO), United Nations Guiding Principles on Business and Human Rights (UNGPs) and OECD shall be assured. Certifiers are expected to study, assimilate and consider local and national conditions in their Risk Assessment while conducting inspections and audits.

Certified Entities shall create awareness on GOTS social criteria within their workforce by appropriate means.

3.2 EMPLOYMENT IS FREELY CHOSEN

- 3.2.1 There is no servitude, forced, bonded, trafficked or indentured labour.
- 3.2.2 Forced labour shall not be used.
- 3.2.3 Workers are not required to lodge "deposits" or their identity papers with their employer. Workers are free to leave their employer after mutually agreed notice period, as stated in employment contract.
- 3.2.4 Workers are not required to pay for entering employment.
- 3.2.5 Workers are not forced to use factory provided lodging or transportation.

3.3 FREEDOM OF ASSOCIATION AND COLLECTIVE BARGAINING

- 3.3.1 Freedom of association and the right to collective bargaining are respected.
- 3.3.2 Workers, without distinction, have the right to join or form trade unions of their own choosing and to bargain collectively.
- 3.3.3 The employer adopts an open and supportive attitude towards the activities of trade unions and their organisational activities and does not hinder or prevent or interfere with activities or engage in surveillance of those activities.
- 3.3.4 Workers representatives have access to carry out their representative functions in the workplace free of intimidation, discrimination or fear of reprisal. Employers do not intimidate or discriminate against workers for their union membership or activities.
- 3.3.5 Collective bargaining agreements shall be respected.
- 3.3.6 Display (for example, on a notice board) and communicate (for example, in employment contracts) about workers' right to collective bargaining.
- 3.3.7 If there is no trade union on site, the employer shall not deny time and resources for workers to elect representatives. Elected representatives shall have access to workers and employer's representative on a regular basis.
- 3.3.8 Each category of employees can be represented by elected representative(s) of the corresponding category of employees.
- 3.3.9 Where the right to freedom of association and collective bargaining is restricted under law, the employer facilitates, and does not hinder, the development of parallel means for independent and free association and bargaining and allows their workers to freely elect their own representatives with whom the company can enter into dialogue about related issues.

3.4 CHILD LABOUR SHALL NOT BE USED

- 3.4.1 Child labour, regardless of gender shall not be used.
- 3.4.2 Young workers (age between minimum age up to 18 years old) under 18 shall not be employed at night or in hazardous conditions.



- 3.4.3 A young worker cannot work for more than 8 hours in a day or the legal limit for young workers, whichever is lower. Overtime is prohibited and a minimum consecutive period of 12 hours' rest as well as customary weekly rest days shall be provided.
- 3.4.4 These policies and procedures including the interpretation of the terms "child" and "child labour" shall conform at the very minimum of to the provisions of the relevant ILO conventions C138 and C182, or national / local laws, which ever affords greater protection.

3.5 NO DISCRIMINATION IS PRACTISED

- 3.5.1 There is no kind of discrimination e.g. in hiring, compensation, access to training, promotion, termination, retirement or right to overtime hours based on race, caste, ethnic or national origin, nationality, religion, age, disability, gender, marital status, pregnancy, sexual orientation, union membership, political affiliation, social background or any other condition that could give rise to discrimination. In particular, workers shall not be harassed or disciplined on any of the grounds listed above.

3.6 OCCUPATIONAL HEALTH AND SAFETY (OHS)

- 3.6.1 Working conditions are safe and hygienic.
- 3.6.2 A safe and hygienic working environment shall be provided, bearing in mind the prevailing knowledge of the industry and of any specific hazards. Vulnerable individuals such as - but not limited to - young workers, new and expecting mothers and persons with disabilities, shall receive special protection.
- 3.6.3 Appropriate personal protective equipment shall be provided to the workers (including homeworkers) at no cost to such workers and it shall be assured that these are being used whenever necessary. Adequate steps shall be taken to prevent accidents and injury to health arising from, associated with, or occurring in the course of work, by minimising, so far as is reasonably practicable, the causes of hazards inherent in the working environment.
- 3.6.4 Companies shall ensure adequate occupational medical assistance and related facilities.
- 3.6.5 Systems shall be in place to detect, assess, avoid and respond to potential threats to the health and safety of workers. Effective measures shall be taken to prevent workers from having accidents, injuries or illnesses, arising from, associated with, or occurring during work.
- 3.6.6 For all chemical substances and preparations used the corresponding Material Safety Data Sheet (SDS) shall be maintained and it shall be assured that the applicable health and safety measures for handling and storing these chemicals are implemented.
- 3.6.7 Companies shall take all appropriate measures within their sphere of influence, to see to the stability and safety of the equipment and buildings they use, including accommodation to workers, where provided, as well as to protect against any foreseeable emergency. Workers shall be able to exit the premises in case of imminent danger without seeking permission.
- 3.6.8 A safe and hygienic working environment shall be provided, bearing in mind the prevailing knowledge of the industry, any specific hazards, and context/country specific risks.
- 3.6.9 Workers shall receive regular and recorded health and safety training incl. fire prevention training and evacuation drills, and such training shall be repeated for new or reassigned workers.
- 3.6.10 Employers shall provide training and make safety signs available in the local language and the language(s) spoken by their workforce.



- 3.6.11 Workers (including homeworkers) and staff shall receive regular and recorded health and safety training including fire prevention training and evacuation drills (as relevant), and such training shall be repeated for new or reassigned workers.
- 3.6.12 If the facility employs homeworkers, it shall take effective actions to ensure that such homeworkers are given a level of protection equivalent to that given to the workers working at the facility.
- 3.6.13 Access to functional clean toilet facilities and to free of charge potable water, and, if appropriate, to rest areas, food consuming areas and sanitary facilities for food storage shall be provided and not unreasonably restricted.
- 3.6.14 Accommodation, where provided, shall be clean, safe, and meet the basic needs of the workers.
- 3.6.15 Employer shall assign responsibility for health and safety to a senior management representative.

3.7 NO HARASSMENT AND VIOLENCE

- 3.7.1 Employers shall make a commitment within their social compliance policy (see section 3.12) to foster an environment at work free from harassment, bullying and violence.
- 3.7.2 Sexual harassment, sexual violence and gender-based violence is not permitted in the workplace, irrespective of gender.
- 3.7.3 Prohibited is any act of gender-based violence that results in, or is likely to result in, physical, sexual or psychological harm or suffering to women including threats of such acts, coercion or arbitrary deprivation of liberty, whether occurring in public or in private life.
- 3.7.4 Physical abuse or discipline, the threat of physical abuse, sexual or other harassment and verbal abuse or other forms of intimidation shall be prohibited.
- 3.7.5 Workers shall be treated with respect and dignity.
- 3.7.6 Human Rights shall be respected and protected. Employer shall have a policy commitment for the same.
- 3.7.7 Confidential reporting of abuse or harsh treatment shall be encouraged by the management. Each facility shall display contact details for the local point of contact at the workplace for grievance redressal, in a way that all workers have access to it. This information shall be provided before signing an employment contract.
- 3.7.8 All disciplinary measures shall be recorded.

3.8 REMUNERATION AND ASSESSMENT OF LIVING WAGE GAP

- 3.8.1 Wages and benefits paid for a standard working week meet, at a minimum, national legal standards or industry benchmark standards, whichever is higher. In any event wages should always be enough to meet basic needs and to provide some discretionary income.
- 3.8.2 All workers shall be provided with written and understandable information about their employment conditions compliant with national legal requirements and including wages and social benefits legally granted before they enter employment.
- 3.8.3 Wages shall be paid regularly (at least monthly) and promptly. Workers shall be informed about the particulars of their wages for the pay period concerned each time that they are paid.
- 3.8.4 Withholding of wages for payment as a lump-sum at the end of a term of employment or training is prohibited.
- 3.8.5 For specified work (being done at home or at facility) paid by the 'piece rate', the rate of remuneration shall be comparable to that received by a worker in the facility of the employer, doing similar work on an hourly basis. If there is no such worker, then the



remuneration in another facility in the same field of activity and region concerned can be used as a benchmark by the Approved Certifier.

- 3.8.6 Deductions from wages as a disciplinary measure are not permitted. Other deductions are permitted only under the conditions and to the extent prescribed by law or fixed by collective agreement.
- 3.8.7 Overtime shall be paid at a premium rate established by law or through collective bargaining, whichever is higher. Premium rate shall not be less than one and one-quarter times the regular rate. Equivalent leisure time may also be provided as compensation for overtime, if permitted by local regulations.
- 3.8.8 Workers shall receive wages directly in their hand / bank account or in a manner convenient to workers.
- 3.8.9 Certified Entities shall calculate 'Living Wages' for their respective operations. Furthermore, they shall compare Living Wages data with their remuneration data and calculate the 'Wage Gap' for their workers.

3.9 WORKING TIME

- 3.9.1 Working hours shall comply with national laws, collective bargaining agreements and benchmark industry standards, whichever affords greater protection.
- 3.9.2 In any event, workers shall not be required to work in excess of 48 hours per week on a regular basis, shall have the right to have rest breaks in every working day and shall be provided with at least one day off for every 7-day period on average.
- 3.9.3 Overtime shall be voluntary, shall not exceed 12 hours per week, shall not be demanded on a regular basis and shall not represent a significantly higher likelihood of occupational hazards.

3.10 NO PRECARIOUS EMPLOYMENT IS PROVIDED

- 3.10.1 To every extent possible work performed shall be on the basis of recognised employment relationship established through national law and practice.
- 3.10.2 Obligations to employees under labour or social security laws and regulations arising from the regular employment relationship shall not be avoided through the use of labour-only contracting, subcontracting, or home-working arrangements, or through apprenticeship schemes where there is no real intent to impart skills or provide regular employment, nor shall any such obligations be avoided through the excessive use of fixed-term contracts of employment.

3.11 MIGRANT WORKERS

- 3.11.1 Equality in treatment shall be provided as compared to local workers who work at employer's facilities. This includes remunerations, social security, access to training and other provisions of GOTS Social Criteria.
- 3.11.2 Migrant workers shall have access to their travel documents
- 3.11.3 Besides other standard requirements, written employment contract shall include - in a language that the worker understands- clear information about provisions of terms, duration and hours of employment, deductions, benefits (such as leave and insurance), housing, food, transportation, and other applicable provisions.
- 3.11.4 If food, accommodation, transportation or other services are provided, they shall be provided at a rate not higher than the market rate.



3.12 SOCIAL COMPLIANCE MANAGEMENT

Companies shall have a policy for social accountability to ensure that the social criteria can be met. They shall support the implementation and monitoring of the social criteria by:

- 3.12.1 Nominating a person responsible for social accountability.
- 3.12.2 Monitoring compliance with the social criteria and implementing necessary improvements at its facilities, also keeping in mind potential adverse impacts.
- 3.12.3 Informing its workers about the contents of their employment contract, minimum social criteria and any other related information provided by GOTS in the applicable local language(s).
- 3.12.4 Maintaining records of the name, age, working hours and the wages paid for each worker.
- 3.12.5 Allowing the workers to nominate a representative for social accountability that can provide feedback to the management regarding implementation status of and compliance with social criteria.
- 3.12.6 Providing time and space to workers to organise and engage in collective bargaining.
- 3.12.7 Recording and investigating complaints from workers or third parties related to the adherence to the social criteria and maintaining records about any necessary corrective measures arising from them.
- 3.12.8 A functional and effective complaint mechanism shall be established. Anonymous complaint mechanism shall be followed to the maximum possible extent.
- 3.12.9 Upon request, Certified Entities shall provide information about complaint records to their Certified Buyers should complaints possibly be related to the business practices of such Certified Buyers.
- 3.12.10 Refraining from disciplinary measures, dismissals or other forms of discrimination against workers for providing information concerning observance of the social criteria.
- 3.12.11 For home-workers, data on the nature, extent and characteristics of home-work shall be compiled by the employer and made available to Certification Bodies. Appropriate access to private home-working premises shall be arranged by employers for the purposes of inspection and audit.

4 QUALITY ASSURANCE SYSTEM

4.1 AUDITING OF PROCESSING, MANUFACTURING AND TRADING STAGES

Processors, manufacturers and traders of GOTS Goods shall participate in the GOTS certification procedure which is based on an on-site annual inspection cycle (including possible additional unannounced inspections based on a risk assessment of the operations). They shall hold a valid certificate of compliance listing the certified products/product categories and the processing, manufacturing and trading activities that are qualified under the scope of certification (including names of *subcontractors* assigned and their relevant processing and manufacturing steps).

Exceptions for Traders and Retailers are defined in corresponding Implementation Manual.

Exceptions to annual onsite inspection for small scale *subcontractors* with a low risk potential are possible under certain conditions, as defined in corresponding Implementation Manual.

On-site inspection shall however be performed to such units at least for the first year and every 3rd year of granted certification.

The entity under whose name or brand the labelled *GOTS Goods* are sold to the end consumer is responsible for exercising due care in ensuring compliance of the products with this Standard, the Licensing and Labelling Guide and further provisions as released by the Global Standard gGmbH.

Certifiers shall be authorised by the Global Standard gGmbH for the specific scope(s) in which they offer certification services:

- a) Certification of mechanical textile processing and manufacturing operations and their products



- b) Certification of wet processing and finishing operations and their products
- c) Certification of trading operations and related products

Basis for authorisation by the Global Standard gGmbH is an accreditation of the certifier in accordance with the document 'Approval Procedure and Requirements for Certification Bodies' by the main co-operation partner of the Global Standard gGmbH for this process, IOAS, or another recognised accreditation body.

4.2 TESTING OF TECHNICAL QUALITY PARAMETERS AND RESIDUES

Certified Entities are expected to undertake testing in accordance with a risk assessment in order to assure compliance with this Standard and in specific with the criteria of Section 2.4.14 (Technical Quality Parameters) as well as 2.4.15 and 2.4.16 (Limit Values for Residues in *GOTS Goods*, additional materials and *accessories*). All *GOTS Goods*, the components of these products and the *inputs* used are to be included in this risk assessment and therefore potentially subject to testing. The testing frequency, the type and number of samples are to be established according to this risk assessment.

Samples for residue testing may also be taken by the inspector during the required on-site inspection, either as back-up to the inspection process or in case of suspicion of contamination or non-compliance. Additional samples of goods may be taken from the supply chain at any time without advance notice.

Laboratories that are accredited according to ISO/IEC 17025 or qualified to GLP and that have appropriate experience in residue testing for textiles respective chemical *inputs* are approved to perform residue testing for those tests that are under the scope of their accreditation.

5 ETHICAL BUSINESS BEHAVIOUR

Ethical Business Behaviour is a crosscutting prerequisite at all stages of the supply chain and applies to all stakeholders of the supply chain. It is critically important for maintaining confidence among stakeholders of the certification process (workers, business partners, customers, certification body and scheme) and towards consumers. To assure Ethical Business Behaviour, the following criteria shall be met:

- a) Companies have a Code of Conduct (CoC) in place which prescribes ethical behaviour, honesty, fair dealings and prevention of corruption.
- b) Adherence to relevant OECD guidelines shall be assured.
- c) Companies are not involved in any act of corruption, extortion or embezzlement, nor in any form of bribery - including but not limited to - the promising, offering, giving or accepting of any improper monetary or other incentive.
- d) Companies keep accurate information regarding their activities, structure and performance, and disclose these in accordance with applicable regulations and industry benchmark practices.
- e) Companies shall neither participate in falsifying such information, nor in any act of misrepresentation in the supply chain. They are expected to collect, use and otherwise process any personal information (including that from workers, business partners, customers and consumers in their sphere of influence) with reasonable care.
- f) The collection, use and other processing of personal information shall comply with privacy and information security laws and regulatory requirements.
- g) Companies have established an anonymous non-discriminatory whistle-blower mechanism, assuring easy access and effective measures to protect whistle-blowers and ensuring that any information received regarding corruption or non-compliance is followed up and necessary actions taken.
- h) Companies provide training on integrity regulations and inform about sanctions for non-compliance



6 ANNEX

6.1 SPECIFIC REQUIREMENTS FOR TEXTILE PERSONAL CARE PRODUCTS

This Annex lists criteria for Textile Personal Care Products that deviate from or are set in addition to the general criteria of this Standard. Where no deviating requirements are set in this Annex, the applicable general GOTS criteria apply.

Important note: Any entity selling personal care products shall be aware of and meet the specific legal (hygienic) requirements applicable for its products and in the country / region where they are sold. It may well be that some of these legal requirements for specific personal care products conflict with environmental criteria set by GOTS. Accordingly, except where specified below, these products cannot be certified and labelled to GOTS.

6.1.1 Scope

For the purpose of this Standard, Textile Personal Care Products are grouped as following:

- Group I: *Topical products* – such as cotton wool, sanitary towels, bandages, nappies, gauze cotton tissue (Gamgee), island dressings, wound strips, sticking plasters and gauze dressings.
- Group II: *Physically invasive products* – such as tampons, ear buds and dental rolls, and *Clinically invasive products* – such as surgical swabs and gauze swabs.

6.1.2 Specific criteria for materials and inputs (for Group I and Group II)

Fibre material components

All fibres used shall be Totally Chlorine Free (TCF).

Non-woven and absorbent materials shall be composed of 100% certified organic fibres.

Synthetic fibre components are not permitted for group II products unless the use of other fibre materials is required to meet legal medical regulations and does not exceed 5% of the content (if labelled as organic) or 30% (if labelled as 'made with x% organic materials').

Super Absorbing Polymers (SAPs)

SAPs shall be made from non-GMO renewable raw materials (ADM-type).

SAPs may as a maximum contain 5% by weight of water-soluble extracts.

Barrier films

Except for wound contact layers, barrier films shall be composed of biodegradable polymers.

All raw materials used shall be non-GMO.

Specific Criteria for Tampons

Only paper or cardboard tampon applicators are permitted. Additionally, applicator materials shall satisfy chemical residue requirements of Section 2.4.16.

Synthetic security veils are not permitted.

6.1.3 Specific criteria for Inputs

Sizing

No sizing shall be used for group II products.



Colourants

The use of colourants is only allowed if their use is required to meet a mandatory legal regulation.

All used colourants shall be GOTS approved. Approved Certifiers may further grant exceptions where a clear functional purpose exists (e.g. to identify wound dressing orientation).

Optical Brightening Agents

Optical brightening agents (OBAs) shall not be used.

Fragrances, lotions and lubricants

Any fragrances, lotions and lubricants used shall comply – beside the input criteria of GOTS – also with the input criteria of the COSMOS-Standard (Cosmetics Organic and Natural Standard).

6.2 SPECIFIC REQUIREMENTS FOR FOOD CONTACT TEXTILES

This Annex lists criteria for Food Contact Textiles (FCT) that are set in addition to the general criteria of this Standard. Where no requirements are set in this Annex, the applicable general GOTS criteria apply.

Important note: Any entity selling FCT shall be aware of and meet the specific legal (hygienic and GMP) requirements applicable for its products and in the country / region where they are sold. It may well be that some of these legal requirements for specific FCTs conflict with environmental criteria set by GOTS. Accordingly, except where specified below, these products cannot be certified and labelled to GOTS.

6.2.1 Scope

FCTs can potentially contaminate food or water by transferring substance into it. All FCTs are covered under the scope of this Annex. It applies to all sectors and to all stages of manufacturing, processing and distribution of FCTs.

6.2.2 Specific criteria for FCTs

All textiles used shall be Totally Chlorine Free (TCF).

FCTs shall be composed of 100% certified organic fibres.

Printing is prohibited on the food contact side of the textiles. GMP should, in particular, ensure that chemical substances are not transferred through the substrate.



7 DEFINITIONS

For the purpose of this Standard, the following terms are defined:

Term	Definition for the purpose of this Standard
<i>Accessories</i>	Items that are added to supplement <i>GOTS Goods</i> for required functional or for fashionable reasons. Most commonly used <i>accessories</i> are listed in Section 2.4.9. The processing of those accessories is not under direct scope of the GOTS on-site certification system. The GOTS criteria applicable to accessories are listed in Section 2.4.9 and 2.4.16.
<i>Approved Certifier</i>	Certification body which is approved by the Global Standard gGmbH to perform inspections and certifications according to GOTS in the relevant scope. An updated list of Approved Certifiers and their scopes is available at: http://www.global-standard.org/certification/approved-certification-bodies.html
<i>Certified Entity</i>	<i>Processor, manufacturer, trader</i> or retailer of <i>GOTS Goods</i> certified by an <i>Approved Certifier</i> .
<i>Endocrine disruptor</i>	An exogenous substance or mixture that alters function(s) of the endocrine system and consequently causes adverse health effects in an intact organism, or its progeny, or (sub)populations
<i>Food Contact Textiles</i>	Any textile articles that are intended to come into prolonged contact with, or are already in contact with, or can reasonably be expected to be brought into contact with or to transfer their constituents to food or water intended for human consumption under normal or foreseeable conditions of use.
<i>Formulator</i>	An organisation involved in manufacturing, producing or creating a mixture of chemical substances blended together (formulation) to be used for textile processing. A formulation is the finished chemical product sold or distributed ready for use.
<i>GOTS Goods</i>	Textile goods (finished or intermediate) produced in compliance with GOTS by a <i>Certified Entity</i> and certified by an <i>Approved Certifier</i> .
<i>'Heavy Metal Free'</i>	An <i>input</i> is considered as 'heavy metal free' if it does not contain heavy metals as a functional constituent and any impurities contained do not exceed the following limit values (as set by ETAD for dyes): Antimony: 50 mg/kg, Arsenic: 50 mg/kg, Barium: 100 mg/kg, Cadmium: 20 mg/kg, Cobalt: 500 mg/kg, Copper: 250 mg/kg, Chromium: 100 mg/kg, Iron: 2500 mg/kg, Lead: 100 mg/kg, Manganese: 1000 mg/kg, Nickel: 200 mg/kg, Mercury: 4 mg/kg, Selenium: 20 mg/kg, Silver: 100 mg/kg, Zinc: 1500 mg/kg, Tin: 250 mg/kg Special Limits for Pigments : Cadmium : 50 mg/kg; Mercury : 25 mg/kg.
<i>'In conversion'</i>	A product from an operation or portion thereof, which has completed at least 12 months under organic management and is under the supervision of a certification body.
<i>Input</i>	General term for all <i>substances</i> and <i>preparations</i> directly applied as textile auxiliary agents, inks, dyes or pigments.
<i>Invasive products</i>	<i>Clinically invasive products</i> : Any device that penetrates the body through the skin, with the aid of or in the context of a surgical operation. <i>Physically invasive products</i> : Any device that, in whole or part, penetrates inside the body through a natural or artificial orifice.
<i>Manufacturer</i>	Entity in the manufacturing chain (sewing industry or so called CMT (cutting, making, trimming) industry up to labelling and final packing) of <i>GOTS Goods</i> .
<i>Natural materials</i>	A <i>natural material</i> is any product or physical matter that comes from plants, animals, or the ground. Minerals and the metals that can be extracted from them are also considered to belong into this category. <i>Natural materials</i> include biotic materials (materials that originates from living organisms such as (organic) natural fibre, wood, leather, horn, bone, shell, seed and plant oils etc.) and non-biotic material (such as minerals, metals, stone).
<i>'Permanent AOX'</i>	AOX is permanent, if the halogen is permanently bound to the molecule (e.g. in the chromophore of a dyestuff or pigment) and cannot get hydrolysed or released during fibre processing.
<i>Preparations</i>	Mixtures or solutions composed of two or more <i>substances</i> .



<i>Pre-consumer waste</i>	Material diverted from the waste stream during the manufacturing process. Excluded is the reutilization of materials such as rework, regrind or scrap generated in a process and capable to being reclaimed within the same process.
<i>Post-consumer waste</i>	Material generated by households or by commercial, industrial and institutional facilities in their role as end-users of the product that can no longer be used for its intended purpose. This includes returns of materials from the distribution chain.
<i>Processor</i>	Entity in the processing chain (post-harvest handling up to finishing) of <i>GOTS Goods</i> .
<i>Subcontractor</i>	Entity in the supply chain of <i>GOTS Goods</i> performing job work (in the field of processing or manufacturing) for a <i>Certified Entity</i> without becoming proprietor of the <i>GOTS Goods</i> and not assigning an own (independent) GOTS certification.
<i>Substances</i>	Chemical elements and their compounds as they occur in the natural state or as produced by industry.
<i>Textiles for babies</i>	Textiles products used for babies and small children up to the age of 36 months
<i>Topical Products</i>	Any device that does not penetrate inside the body, either through a body orifice or through the skin
<i>Trader</i>	Entity trading with (=buying and selling) <i>GOTS Goods</i> in the supply chain between the producer of the fibre and the retail merchant of the final product regardless whether the goods are physically received or not (e.g. an import, export or wholesale trading entity). Agents that do not become proprietor of the goods and retailers only selling to the end consumer are not considered as traders.
<i>Wage Gap</i>	The difference between average Living Wage and Average Wages Paid to workers in a <i>Certified Entity</i> .
<i>Worker</i>	Any individual engaged in work who is not a senior manager or owner.
<i>Migrant Worker</i>	Individual who migrates from one geographical region to another with a view to being employed and includes any person regularly admitted as a migrant for employment.
<i>Home-worker</i>	Individual carrying out work for remuneration in his or her home or at other premises mutually agreed with the employer, other than the regular workplace of the employer.
<i>Facility</i>	An individual establishment or site where processing, manufacturing, trading or retailing of <i>GOTS Goods</i> is done. It is operated by a <i>Certified Entity</i> and inspected by an <i>Approved Certifier</i> .
<i>Machine Oil</i>	Oil intended essentially for lubrication of machines and machine parts used for processing of <i>GOTS Goods</i> including but not limited to spinning, weaving, knitting etc. and which may come in contact with <i>GOTS Goods</i> .
<i>Microplastics</i>	Based on working definition of ECHA: A material consisting of solid polymer containing particles where $\geq 1\%$ w/w of particles have all dimensions $1\text{nm} \leq x \leq 5\text{mm}$. Note: This definition is under public consultation and the final outcome will be deemed applicable.
<i>Young Worker</i>	A worker who older than the minimum age but less than 18 years old.

8 LIST OF ABBREVIATIONS

AOX	Absorbable halogenated hydrocarbons and substances that can cause their formation.	IFOAM	International Federation of Organic Agriculture Movements
APEDA	Agricultural & Processed Food Products Export Development Authority, India	ILO	International Labour Organisation
APEO	Alkylphenolethoxylates	IOAS	International Organic Accreditation Service
B2B	Business to Business	ISO	International Organization for Standardization
B2C	Business to Consumer	IUCN	International Union for Conservation of Nature
BBP	Benzylbutyl phthalate	IVN	International Association Natural Textile Industry, Germany



BOD	Biological Oxygen Demand	JOCA	Japan Organic Cotton Association, Japan
COD	Chemical Oxygen Demand	LAS	Linear alkyl benzene sulphonate
DBP	Dibutyl phthalate	LC50	Lethal concentration (50% mortality)
DBT	Dibutyltin	MAK	Maximum Allowable Concentration (of a substance at the working place). The parameter refers to findings and categorisation of a German research commission
DCHP	Di cyclohexylphthalate	MBT	Monobutyltin
DEHP	Diethylhexyl phthalate	MMT	Monomethyltin
DEP	Diethyl phthalate	MOT	Monooctyltin
DHNUP	Di-C ₇₋₁₁ branched and linear alkylphthalates	MPhT	Monophenyltin
DHP	Di-n-hexylphthalate	NP	Nonylphenol
DHTDMAC	Dihydrogenated tallow dimethylammonium chloride	NPEO	Nonylphenol ethoxylates
DHxP	Di hexyl phthalates	NTA	Nitrilotriacetic acid
DIBP	Di-isobutyl phthalate	OECD	Organisation of Economic Cooperation and Development
DIDP	Diisodecyl phthalate	OP	Octylphenol
DIHP	Di-C ₆₋₈ branched alkylphthalates	OPEO	Octylphenol ethoxylates
DIHxP	Di-iso hexylphthalate	OTA	Organic Trade Association, USA
DINP	Diisononyl phthalate	PAH	Polycyclic aromatic hydrocarbons
DMEP	Bis(2-methoxyethyl) phthalate	PCB	Polychlorinated Biphenyls
DNOP	Di-n-octyl phthalate	PCP	Pentachlorophenol
DNP	Di-n-nonylphthalate	PeP	Pentylphenol
DPhT	Diphenyltin	PFCA	Perfluorinated carboxylic acids
DPP	Dipentylphthalate	PFOA	Perfluorooctanoic acid
DPrP	Di-n-propyl phthalate	PFOS	Perflurooctane sulfonate
DPT	Dipropyltin	PFSA	Perfluorosulfonic acids
DSDMAC	Distearyldimethylammonium chloride	PPE	Personal Protective Equipment
DTDMAC	Ditallowdimethylammonium chloride	PVC	Polyvinyl chloride
DTPA	Diethylenetriamine penta-acetate	REACH	EC Regulation regarding Registration, Evaluation, Authorisation and Restriction of Chemicals
EC	European Commission	SA	Soil Association, UK
EC50	Effect concentration (50%)	TBT	Tributyltin
ECHA	European Chemicals Agency	TCyHT	Tricyclohexyltin
EDTA	Ethylendiamine tetra-acetate	TeBT	Tetrabutyltin
ETAD	Ecological and Toxicological Association of Dyes and Organic Pigments Manufacturers	TeCP	Tetrachlorophenol
FCT	Food Contact Textiles	TeET	Tetraethyltin
FTOH	Fluorotelomer alcohol	TMT	Trimethyltin
GHS	Global Harmonized System	TOC	Total Organic Carbon
GLP	Good Laboratory Practice	TOT	Trioctyltin



GMO	Genetically modified organisms	TPhT	Triphenyltin
GMP	Good Manufacturing Practices	TPT	Tripropyltin
GOTS	Global Organic Textile Standard	USDA	United States Department of Agriculture
HpP	Heptylphenol	α -MES	α -methyl ester sulphonate (C16/18)
IC50	Inhibition concentration (50% inhibition)		

» » » » » » » »

Availability of documents:

This Standard, the Interpretation Manual, reference documents and any further relevant public information as released by Global Standard gGmbH are available for download on the website www.global-standard.org

* * * * *

Important:

The following verbal forms are used to indicate requirements, recommendations, permissions, or capabilities in this policy:

- **“shall”** indicates a mandatory requirement
- **“should”** indicates a recommendation
- **“may”** indicates a permission
- **“can”** indicates a possibility or capability

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EXHIBIT D



TEST REPORT

Technical Report: (7420)009-0036(S)(R2)

Page 1 of 7
Jan 21, 2020



**Bureau Veritas Consumer Products
Services Lanka (Pvt) Ltd.**

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LAB NO.: (7420)009-0036(S)(R2)
FORM NO.: 001364
DATE IN: JAN 09, 2020
MODIFIED DATE IN: JAN 13, 2020
ORIGINAL REPORT OUT
DATE: JAN 20, 2020
1ST REVISED DATE IN: JAN 21, 2020
1ST REVISED DATE OUT: JAN 21, 2020
2ND REVISED DATE IN: JAN 21, 2020
2ND REVISED DATE OUT: JAN 21, 2020
BUYER: /
NO. OF WORKING DAYS: /
PAGE 2 OF 5

OVERALL RATING

PASS	X
FAIL	
DATA	

Vendor:	MAS INTIMATES	Agent:	/
Fabric Supplier/Mill:	/	Factory/Manufacturer:	MAS INTIMATES
P.O. No.:	/	Style No.:	/
Sample Description:	01 PC. FABRIC (ART NO: BKP 7115 URETHANE) (SUPPLIER: SPECTEX) (PRODUCTION)	Style Description:	/
Color:	BLACK	Country of Origin:	/
Claimed Fabric Weight:	/	Claimed Fabric Count:	/
Yarn Size:	/	Submitted Size:	/
Size Range:	/	FPU No.:	/
GPU No.:	/	End Use:	/
SKU:	/		

Product Category	FABRIC
Test Requested	EXTRACTABLE HEAVY METAL CONTENT, PFCS & DI ISOCYANATES TESTS
Previous Report No.	/

Submitted Fiber Content	POLYURETHANE
Actual Fiber Content	/
Suggested Fiber Content	/
Submitted Care Instruction(s)	MACHINE WASH COLD, LINE DRY
Client Expected Care Instruction	/
Suggested Care Instruction(s)	/

TEST PROPERTY	PASS	FAIL	DATA	COMMENTS
EXTRACTABLE HEAVY METAL CONTENT	X			
PFCS	X			
DI ISOCYANATES	X			

Remark 01: The test report (7420)009-0036(S) has been replaced with (7420)009-0036(S)(R) to add fabric details as per vendor request.

Remark 02: The test report (7420)009-0036(S)(R) has been replaced with (7420)009-0036(S)(R2) to change fabric composition as per vendor request.

Contact information for this report (Technical and General Inquiries and Feedback)


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BUREAU VERITAS CONSUMER PRODUCTS SERVICES LANKA (PVT) LTD

AUTHORIZED SIGNATORY

REVIEWED BY: KASHMI JAYATHISSA

APPROVED BY:



ROHITHA GUNARATHNA
MANAGER-
ANALYTICAL LABORATORY

TEST RESULTS**Extractable Heavy Metals****Test Method** : DIN EN 16711-2:2016**Tested Item(s)** : A: Polyurethane Liner

Parameter	Unit	Results	Requirement	Reporting Limit
-	-	A		
Lead (Pb)	mg/kg	ND	1.0	0.1
Mercury (Hg)	mg/kg	ND	0.02	0.005
Nickel (Ni)	mg/kg	ND	4.0	0.1
Antimony (Sb)	mg/kg	ND	30	0.5
Arsenic (As)	mg/kg	ND	1.0	0.02
Cadmium (Cd)	mg/kg	ND	0.1	0.02
Chromium (Cr)	mg/kg	ND	2.0	0.1
Chromium (Cr VI)	mg/kg	ND	0.5	0.5
Cobalt (Co)	mg/kg	ND	4.0	0.1
Copper (Cu)	mg/kg	ND	50.0	5
Selenium (Se)	mg/kg	ND	100	6
Barium (Ba)	mg/kg	ND	1000	1
Zinc (Zn)	mg/kg	ND	750	6
Conclusion	-	PASS		

Note:

mg/kg = milligram per kilogram

ND = Not Detected

Perfluorinated Compounds (PFC's) Content**Test Method** : Organic solvent extraction and analyzed by Liquid Chromatograph Mass Spectrometer (LC-MS).

Maximum Limit:	Class I	PFOS, PFOSA, PFOSE, N-Me-FOSA, N-Et-FOSA, N-Me-FOSE, N-Et-FOSE: 1.0 mcg/sq. m (Sum) PFOA: 1.0 mcg/sq. m FTOHs, FTAs: 0.5 mg/kg (Each) Others: 0.05 mg/kg (Each)
	Class II & III	PFOS, PFOSA, PFOSE, N-Me-FOSA, N-Et-FOSA, N-Me-FOSE, N-Et-FOSE: 1.0 mcg/sq. m (Sum) PFOA: 1.0 mcg/sq. m PFUdA, PFDoA, PFTrDA, PFTeDA, PFHpA, PFNA & PFDA: 0.1 mg/kg (Each)
	Class IV	PFOS, PFOSA, PFOSE, N-Me-FOSA, N-Et-FOSA, N-Me-FOSE, N-Et-FOSE: 1.0 mcg/sq. m (Sum) PFOA: 1.0 mcg/sq. m PFUdA, PFDoA, PFTrDA, PFTeDA, PFHpA, PFNA & PFDA: 0.5 mg/kg (Each)

C/N

APPENDIX

List of Ionic Perfluorinated Chemicals (PFCs) :					
No.	Name of Analyte(s)	CAS-No.	No.	Name of Analyte(s)	CAS-No.
1	Perfluorooctane sulfonic acid (PFOS)	1763-23-1, et. al.	12	Perfluoroundecanoic Acid (PFUdA)	2058-94-8, et. al.
2	Perfluorooctane Sulfonamide (PFOSA)	754-91-6	13	Perfluorododecanoic Acid (PFDoA)	307-55-1, et. al.
3	Perfluoro-n-heptanoic acid (PFHpA)	375-85-9, et. al.	14	Perfluorotridecanoic Acid (PFTTrDA)	72629-94-8, et. al.
4	Perfluoro-n-octanoic acid (PFOA)	335-67-1, et. al.	15	Perfluorotetradecanoic Acid (PFTeDA)	376-06-7, et. al.
5	Perfluoro-n-nonanoic acid (PFNA)	375-95-1, et. al.	16	Perfluorooctane sulfonfluoride (PFOSF)	307-35-7
6	Perfluoro-n-decanoic acid (PFDA)	335-76-2, et. al.	-	-	-
List of Volatile Perfluorinated Chemicals (PFCs) :					
No.	Name of Analyte(s)	CAS-No.	No.	Name of Analyte(s)	CAS-No.
1	2-(N-methylperfluoro-1-octanesulfonamido)-ethanol (N-MeFOSE)	24448-09-7	3	N-Methylperfluoro-1-octanesulfonamide (N-MeFOSA)	31506-32-8
2	2-(N-Ethylperfluoro-1-octanesulfonamido)-ethanol (N-EtFOSE)	1691-99-2	4	N-Ethylperfluoro-1-octanesulfonamide (N-EtFOSA)	4151-50-2
CAS-No. = Chemical Abstracts Service registry number					

CPS CONDITIONS OF SERVICE

The party that submits a completed service request form to Company or signs a quotation issued by the Company for its performance of services ("Services") is the "Client" under these Conditions of Service. The entity within the Bureau Veritas Consumer Products Services division accepting the service request form and issuing the Report documenting the results of those Services is the "Company" under these Conditions of Service. Company and Client are, together, the "Parties" and each is a "Party". A request for Services constitutes a legally binding agreement on both Parties when such a request is accepted by the Company ("Agreement") under the following terms and conditions (collectively, "Conditions").

1. Services. (a) The completion of the Services shall be evidenced by the Company's issuing to Client a written report setting forth the results of the Services based upon the properly accepted request, applicable protocols, written information, and where applicable, the product sample provided by Client to Company ("Report"). Company may delegate/assign the performance of all or a portion of the Services to an affiliate of Company or to an agent or subcontractor. Client shall provide to Company on a timely basis, all documents and information necessary to enable Company to properly perform the Services. Company may, in its sole discretion, dispose of product samples furnished to Company for the Services that were not destroyed in the course of performance of the Services. (b) Client represents and warrants to Company that (i) each product sample is not submitted in violation of a third party's intellectual property rights; (ii) Client will not use and rely upon Company's Report for any product whose properties differ from the sample(s) upon which the Report is based; and (iii) any goods subject to inspection will be completely prepared for the type of inspection booked for the specified date; and (c) Client accepts sole responsibility and liability for the accuracy of documents submitted to government or other regulatory bodies, including certificates of compliance required under the US Consumer Product Safety Improvement Act and EU requirements under REACH regulations. Client's responsibility and liability for accuracy shall apply even where Company has provided assistance to Client in preparation of such documentation.

2. Report. (a) The Report shall (i) constitute the sole deliverable for the Services, (ii) relate solely to the facts and circumstances as observed and recorded by Company at the time of performance of the Services within the limits of written information and instructions received from Client. Company shall have no obligation to update the Report after its issuance. Where the Services include testing or inspection: (i) the Report will set forth the findings of Company solely with respect to the product samples identified therein and (ii) the results set forth in the Report are not to be construed as indicative or representative of the quality or characteristics of the lot from which a product sample was taken for Company's performance of Services. (b) The Report is issued solely by Company, is intended for the exclusive use of Client and its affiliates and, except as required by a regulatory body, shall not be published, used for advertising purposes, copied or replicated for distribution or publicly disclosed without Company's prior written consent. Company is not responsible for any third party's interpretation of the Report. (c) Client shall not request a Report for purposes of litigation, nor shall it list Company, its affiliates or employees as an expert in any proceeding without Company's prior written consent. If Client anticipates producing or otherwise using the Report in any legal proceedings, it shall so notify Company prior to submitting the Report in such proceeding.

3. Representations and Warranties. (a) Company undertakes due care and ordinary skill in the performance of its Services. (b) Client agrees that Company is neither an insurer nor a guarantor and does not take the place of Client or the third parties that it retains, including designers, manufacturers, agents, buyers, distributors, and transportation or shipping companies; Company disclaims all liability in such capacities. Client understands that, if it seeks to protect itself from claims of loss, damage or injury, it should obtain appropriate insurance. (c) Company does not warrant or guarantee Client's products, and Company's Report does not represent a warranty of merchantability, a warranty of fitness for a particular purpose, or any other warranty or guarantee.

4. Payment. Payment in full shall be due 30 days after the date of invoice, failing which Company may revoke any credit extended to Client. Client shall reimburse Company for (i) interest on overdue amounts from the due date until paid at an interest rate of 1.5% per month and (ii) any other costs Company incurs in collecting past due amounts, including court, attorneys and collection agencies' fees.

5. Intellectual Property. The names, service marks, trademarks and copyrights of Company and its affiliates (collectively, the "Marks") are and remain the sole property of Company and shall not be used by Client. Client shall not contest the validity of the Marks or take any action that might impair the value or goodwill associated with the Marks or the image or reputation of Company or its affiliates. Client understands that any information or samples submitted to Company is a license for Company to use the same in the performance of Services.

6. Relationship. (a) Nothing herein creates a partnership, agency or joint venture between the Parties. (b) The failure to require strict observance or performance of any provision of these Conditions shall not be construed to be a waiver of a Party's right to later require strict observance and performance of the same. If any provision of these Conditions is held to be invalid or unenforceable, such invalidity shall not invalidate the remainder of the Conditions. (c) For a period of two years after the commencement of this Agreement, Client shall not directly or indirectly try to solicit for employment any of Company's employees.

7. INDEMNITY. CLIENT SHALL HOLD HARMLESS AND INDEMNIFY COMPANY, ITS AFFILIATES, AND THEIR RESPECTIVE DIRECTORS, OFFICERS, EMPLOYEES, AGENTS AND SUBCONTRACTORS AGAINST ALL THIRD-PARTY CLAIMS FOR LOSS, DAMAGE, INJURY, DEATH, OR EXPENSE OF WHATEVER NATURE, INCLUDING BUT NOT LIMITED TO CLAIMS ARISING FROM OR RELATING TO (i) THE PERFORMANCE OF ANY SERVICES BY COMPANY, (ii) THE SALE, RESALE, MANUFACTURE, DISTRIBUTION OR USE OF ANY OF CLIENT'S GOODS OR (iii) BREACH OF CLIENT'S OBLIGATIONS OR WARRANTIES HEREIN.

8. LIMITATIONS OF LIABILITY. (A) COMPANY SHALL NOT BE LIABLE FOR ANY INDIRECT, CONSEQUENTIAL OR SPECIAL LOSS IN CONNECTION WITH THE REPORT, THE PRODUCT FOR WHICH SERVICES WERE PERFORMED, OR THE SERVICES PROVIDED BY COMPANY HEREUNDER. COMPANY SHALL NOT BE LIABLE FOR ANY LOSS OR DAMAGE WHATSOEVER RESULTING FROM ANY DELAY IN THE PERFORMANCE OF ITS OBLIGATIONS HEREUNDER OR FROM THE FAILURE OF COMPANY TO PROVIDE ITS SERVICES WITHIN ANY TIME PERIOD FOR COMPLETION ESTIMATED BY COMPANY, REGARDLESS OF THE CAUSE OF THE DELAY OR FAILURE. (B) THE ENTIRE FINANCIAL AND LEGAL LIABILITY OF COMPANY IN RESPECT OF ANY CLAIM FOR LOSS, INDEMNITY, CONTRIBUTION OR DAMAGE OF WHATEVER NATURE OR HOWSOEVER ARISING, SHALL NOT EXCEED AN AMOUNT EQUAL TO FIVE (5) TIMES THE AMOUNT OF FEES PAID TO COMPANY FOR THE SPECIFIC SERVICES WHICH GAVE RISE TO SUCH CLAIM.

9. Force Majeure. If any event of force majeure or any event outside the control of Company occurs, Company may immediately cancel or suspend its performance hereunder without incurring any liability whatsoever to Client.

10. Governing Law. These Conditions shall be governed by the laws of the country as follows: for Services performed in (i) the Americas: the laws of New York; (ii) Asia Pacific, South Asia, Middle East and Africa: the laws of Hong Kong (except for China where PRC laws govern), and (iii) Europe: the laws of England.

11. Dispute Resolution. (a) If Client desires to assert a claim relating to the Services, it must submit the same to Company in writing setting forth with particularity the basis for such claim within 90 days from discovery of the claim and not more than six months after the date of issuance of the Report. Client waives any and all claims without limitation that it does not submit within such time periods. (b) If a dispute arises under this Agreement, the Parties shall first attempt good faith negotiations, failing which, the Parties (i) agree that the courts of the country of governing law shall have exclusive jurisdiction to settle any such dispute related to this Agreement and (ii) irrevocably waive their right to trial by jury in any such action or proceeding.

12. These Conditions, the applicable order form and/or quotation and the Report represent the entire understanding of the Parties on the subject matter hereof, and no modification is binding unless in writing. Any of Client's terms and conditions attached to, enclosed with or referred to in any order form, purchase order or other document shall not apply.

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END OF THE REPORT.